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A STUDY TO DETERMINE HOW COUNSELING PROCEDURES CAN BE USED TO HELP STUDENTS MAKE DECISIONS AND PLANS MORE EFFECTIVELY.

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*COUNSELING, *DECISION MAKING SKILLS, *ELEVENTH GRADE, *PEER GROUPS, *SOCIAL ENVIRONMENT, SOCIAL ATTITUDES, COUNSELORS, MALE, HIGH SCHOOL STUDENTS, STANFORD, CALIFORNIA

COUNSELING PROCEDURES DERIVED FROM RESEARCH IN SOCIAL LEARNING WERE EXPERIMENTALLY TESTED. PROCEDURES WERE USED BY COUNSELORS TO ASSIST STUDENTS IN LEARNING HOW TO MAKE PLANS AND DECISIONS MORE EFFECTIVELY. SPECIFICALLY, THIS STUDY TESTED THE RELATIVE EFFECT OF STUDENT SOCIAL MODELS, CHARACTERIZED BY VARYING DEGREES OF ATHLETIC, SOCIAL, AND ACADEMIC SUCCESS, ON THE INFORMATION-SEEKING BEHAVIOR OF MALE HIGH SCHOOL STUDENTS. THE STUDY WAS CONDUCTED IN 4 HIGH SCHOOLS WITH 225 ELEVENTH-GRADE STUDENTS. TREATMENT PROCEDURES ADMINISTERED TO 189 STUDENTS IN 27 ACTIVE TREATMENT GROUPS INCLUDED THE PRESENTATION OF AN AUDIOTAPE IN WHICH THE PEER SOCIAL MODEL VERBALLY DEMONSTRATED THOSE BEHAVIORS THE STUDY SOUGHT TO PROMOTE. EVALUATION OF THE TREATMENT PROCEDURES WAS MADE BY DETERMINING THE FREQUENCY AND VARIETY OF SUCH INFORMATION-SEEKING BEHAVIORS AS WRITING TO A COLLEGE FOR ENTRANCE INFORMATION. RESULTS INDICATED THAT THE TREATMENT PROCEDURES DID NOT PRODUCE STATISTICALLY SIGNIFICANT DIFFERENCES AMONG THE VARIOUS TREATMENT GROUPS TO ANSWER OR SUPPORT THE QUESTIONS AND HYPOTHESES RAISED. THOUGH NOT HYPOTHESIZED, IT WAS FOUND THAT SUBJECTS COUNSELED BY A MALE COUNSELOR ENGAGED IN A SIGNIFICANTLY GREATER NUMBER AND VARIETY OF INFORMATION-SEEKING BEHAVIORS THAN SUBJECTS COUNSELED BY A FEMALE COUNSELOR IN THE SAME SCHOOL SETTING. ADDITIONAL RESEARCH UTILIZING DIFFERENT CRITERION MEASURES, DESIGNS, AND MEDIA OF MODEL PRESENTATION IS NECESSARY BEFORE ANY FINAL CONCLUSION CAN BE DRAWN. (JM)

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CHAPTER I

INTRODUCTION AND REVIEW OF THE LITERATURE

BACKGROUND

General Purpose of the Study

The general purpose of this study is to conduct an experimental test of counseling procedures that can be used by counselors to assist students in learning how to make decisions and plans more effectively. Specifically, this investigation tests the relative effect of student social models, characterized by varying degrees of athletic, academic, and social success, on the information-seeking behavior of male eleventh grade students interested in receiving assistance with their educational and vocational planning. In addition, this study attempts to determine the extent to which matching student's self perceived characteristics with the model's characteristics affects the extent of emulating behavior.

This research is based primarily on evidence provided by the studies of Krumboltz and Schroeder (1965); Krumboltz and Thoresen (1964); and Krumboltz, Varenhorst and Thoresen, (in press) showing that "model-reinforcement" counseling procedures are effective for promoting the criterion behavior; i.e., information-seeking behavior. "Information-seeking behavior," as used in this study, refers to overt, measurable, and self-initiated behaviors relevant to gaining information about educational planning and decisions.

Background and Related Research

The central purpose of counseling is to help the client learn how to solve the specific problems for which he seeks help and to generalize this problem-solving process to his future problems (Krumboltz, 1964a). The crucial question for counseling is: What essential elements in the counseling process lead to constructive and demonstrable behavioral change in the client (Truax and Carkhuff, 1964). Michael and Meyerson (1962), as well as Krumboltz (1964a, 1964b, 1966), Bijou (1966) and others, propose that a "behavioral approach" offers to counseling a potent means for promoting specific kinds of changes in behavior. Such an approach treats the counseling process as a learning situation in which the counselor aids the counselee in learning those behaviors necessary to the solution of his problems (Krumboltz, 1966; Krumboltz and Hosford, 1966). A growing consensus of guidance personnel (Gelatt, 1962, 1964; Krumboltz, 1964b, 1964c; Wrenn, 1962; Katz, 1963; McDaniel, et al., 1959) supports the learning of effective decision-making behavior as a primary objective for counseling. As seen from a behavioral point of view, decision-making ability is a learned behavior and once learned is generalizable to many problem-solving situations; e.g., educational, vocational and personal problems.

A major function of secondary school guidance services, according to Gelatt (1962), is to assist in the educational and vocational development of students by providing those experiences which help students learn how to make good decisions. In addition McDaniel et al., (1959) point out that a primary purpose of school guidance and counseling must be that of helping the student develop his capacity for subsequent decision-making. Wrenn (1962), Rothney (1958) and Tyler (1958) similarly support the importance in counseling and guidance of assisting students in decision-making. The need for improving individual career decision-making ability has been given considerable attention in the literature (Krumboltz and Thoresen, 1964; Super et al., 1961; Magoon, 1964). Magoon, for example, contends that effective educational and vocational planning is rarely present among adolescents or adults in our culture. Coleman's study of the adolescent subculture suggests that the student of today must be able to choose the role he wishes to fulfill in society and that he must train for and be aware of the large range of role possibilities that exist. The importance of individual decision-making is aptly pointed out by Gardner (1964 p. 59) when he warns, "One of the clearest dangers in modern society is that men and women will lose the experience of participating in meaningful decisions concerning their own life and work, that they will become cogs in the machine because they feel like cogs in the machine."

The necessity for adequate decision-making ability is evident; yet until very recently, little was known concerning specific techniques a counselor might use in aiding clients to acquire the behavior necessary for good decision-making. Gelatt (1962), Krumboltz (1966), and Slocum (1965) propose that an essential criterion in helping students develop good decision-making ability is to aid them in learning how to collect and analyze information relevant to alternative courses of action. Since many individuals have never learned how to collect and utilize relevant information, counselors need specific techniques and procedures for promoting this behavior. Recently, research emanating from social learning theory (Bandura and Walters, 1963) has shown that observing social models has profound effects on the behavior of observers (Bandura and Ross, 1961, 1963a,1963b, 1963c; Bandura and Huston, 1961; Bandura, 1964a). The experiments of Bandura and his associates have demonstrated that the use of models can be an effective procedure for transmitting entire behavioral repertoires, for disinhibiting or inhibiting existing response patterns, or for serving as discriminative or response facilitative stimuli.

Social Model Learning

Social model learning involves the matching of the behavior of a social model by an observer. This process has been referred to as imitative learning, observational learning, identification, vicarious learning, matched dependent behavior, and indirect learning (Thoresen, 1964). Mowrer (1950) defines imitation as matching behavior which occurs in the presence of the model; identification, however, is referred to as matching behavior occuring in the model's absence. Bandura (1962) on the other hand, employs a single concept, "imitation," to designate both kinds of matching behavior.

The importance of social model learning in changing the behavior of observer-learners has long been recognized by sociologists and anthropologists. Whiting (1941), nearly three decades ago, provided a social model learning description of how youth learn by observing the behavior of socially powerful and aggressive models. The anthropological field studies of Bateson (1936) and Nash (1958) have also recognized the primary impact of social model learning on the behavior of observers. Williams (1952) similarly describes the process of enculturation as gained primarily from observing the behavior of others.

Miller and Dollard (1941), however, were among the first to conceptualize imitative behavior as something other than an instinctive process. Their experiments treated the process of social model learning (referred to as matched dependent behavior by these experimenters) as instrumental conditioning in which the subjects were reinforced for matching the responses of the model. Although Miller and Dollard demonstrated that individuals can learn by observing others, their studies included reinforcement of the subjects for matching the behavior of the social models and therefore were unable to account for the effect of the social model alone.

Mowrer (1960) takes a different point of view on social model learning. Although he recognizes that imitative learning occurs when the observer is reinforced for matching the model's responses, Mowrer's proprioceptive feedback theory (1960) reduces imitative learning to the process of classical conditioning. According to this theory, reinforcement for matching the behavior of the social model is not necessary in order for responses to be acquired by the observer. Mowrer suggests that rewarding the behavior of the model is sufficient to promote imitative behavior. As a result of the reinforcement provided the social model, the model's behavior acquires secondary reinforcing properties through the process of classical conditioning. By reproducing the model's positively valenced behavior, the observer, in effect, administers conditioned reinforcements to himself. Once the behavior is acquired by the observer, it may be effective in eliciting external reinforcement and therefore is maintained and enhanced by the process of instrumental conditioning.

Some evidence is available to support Mowrer's vicarious conditioning theory (Bandura and Huston, 1961; Bandura, Ross and Ross, 1963a; Bandura and McDonald, 1963). Bandura and Huston exposed nursery children to a model-rewarded or model-nonrewarded situation. The experimenter and an assistant, who served as a model, engaged the subject in a game, the object of which was to guess which of two boxes contained two picture stickers. The subject observed while the model engaged in various verbal, motor, and aggressive behaviors totally irrelevant to the performance of the task to which the subject's attention was directed. In the model-rewarded condition, the model culminated the unrelated behaviors by choosing the box which contained the picture stickers. The model demonstrated the same irrelevant behaviors in the model-nonrewarded treatment, but chose the empty box. The results of the study showed that those subjects in the model-rewarded situation engaged in a significantly greater amount of imitative behavior than did those individuals who observed the non-rewarded model.

A subsequent study by Bandura, Ross and Ross (1963a) showed that children who observed an aggressive model whose behavior was rewarded displayed more imitative aggressive behavior than did children who saw the model punished. Four groups of nursery school children were used in the study: (1) aggressive model rewarded;

(2) aggressive model punished; (3) a control group which had no exposure to the model; and (4) a second control group which observed highly expressive but non-aggressive models. Those children exposed to the punished model did not differ significantly in the amount of imitative behavior from those in the control group.

Bandura and McDonald (1963) combined the principles of imitation and operant conditioning in a study to determine whether the combined use of models and social reinforcement would be more effective than models alone in altering children's moral judgments. One of the findings of this investigation was that the presence of the rewarded model was sufficient to instigate matching behavior. Not only was the use of models alone as effective as the combination of models and reinforcement, but the former was also significantly more effective than reinforcement-alone procedures. The findings of these studies provide evidence that much human behavior can be learned without any externally administered rewards to the observer.

While recognizing the value of both Miller and Dollard's instrumental conditioning and Mowrer's classical conditioning theories for explaining imitative learning, Bandura (1962a, 1965a), criticizes these theories. They assume, he says, that in order for imitative learning to occur, the subject must perform the behavior and experience some reward contigent to the response. He suggests that the acquisition of imitative responses may depend solely upon observing the performance of a social model and does not necessarily entail the opportunity to perform the model's behavior in the exposure setting, or any reinforcements applied immediately to either the model or the observer. Bandura accounts for imitative learning under these conditions by the contiguity theory of observational learning (Bandura, 1965b). According to this theory, contiguity of sensory stimulation is the sole requirement for the acquisition of most forms of matching responses. This process is independent of motivation, reinforcement, overt practice and other factors. These variables are regarded as facilitative rather than necessary for the occurrence of imitative learning.

There is evidence that the acquisition of matching responses takes place through contiguity, whereas reinforcing the model and/or the observer influences the performance of the learned responses (Bandura, in press). The 1961 and 1963c studies of Bandura, Ross and Ross showed that although a number of subjects in the model-punished condition did not demonstrate the aggressive behavior, they were able in post-experimental interviews to describe the model's responses with considerable accuracy. Bandura states: "Evidently, they had learned the cognitive equivalents of the models' responses but they were not translated into their motoric form (Bandura, 1965a, p. 329)." Support for Bandura's view also comes from the area of communication. Maccoby and Sheffield's (1958) account of jet mechanics who learned faster by watching films than by actually engaging in and being reinforced in the learning process indicates contiguous association of sensory events may be the only requirements needed in imitative learning.

It is important to point out, however, that Bandura's contiguity or no-trial learning theory (1965b) refers to the acquisition of imitative responses. According to Bandura, reinforcement is still important in imitative learning, but is viewed as influencing the performance of imitatively learned responses rather than their acquisition.

Symbolic Models

Several studies indicate that symbolic models in the form of recordings, films, video tapes, etc. and physically present models may be equally effective in influencing behavior (Walters et al., 1962; Bandura, Ross and Ross, 1963a; Schroeder, 1964; Thoresen, 1964; Lovaas et al., 1961). Bandura, Ross and Ross's replication of their 1961 study (1963a) used the same models but presented them on film. Analysis of the two sequential studies by the authors not only showed that children exposed to live or film models of aggressive behavior exhibited more aggressive behaviors than did children exposed to non-aggressive models, but that children who viewed real-life models did not differ in total aggressiveness from those exposed to film models. A later experiment by Bandura and Mischel (Bandura, 1965a) found that both live and verbally presented symbolic models were successful in modifying children's delay-of-reward patterns. The changes produced by the symbolic model, however, were less stable over time.

Lovaas (1961), working with nursery school age children, similarly found film models effective in promoting aggressive behavior. He demonstrated that, after viewing aggressive behavior on film, subjects chose to operate aggressive-type toys to a greater extent than subjects viewing non-aggressive films. Contrary to the hydraulic energy model of psychoanalytic theory, which predicts that children will discharge pent-up aggressions by vicarious participation in aggressive behavior of others, Lovaas's results provide evidence that aggressive models presented on film make children more aggressive rather then less aggressive.

The possibility that symbolic models are effective in promoting subjects' imitative behavior has direct applicability to the counseling situation. If behavior can be acquired by exposure to symbolic social models, counseling procedures utilizing models presented by means of video and audio media may be effective in shaping and modifying a large number of behaviors among clients.

Social Models and Counseling

New procedures for counseling have been and are being developed with principles of social model learning. The effect of symbolic social models as a source of patterns of behavior has been investigated as a variable for promoting information-seeking behavior among high school students (Krumboltz and Schroeder, 1965; Krumboltz and Thoresen, 1964; Krumboltz, Varenhorst and Thoresen, in press).

Krumboltz and Schroeder investigated both model-reinforcement and reinforcement counseling techniques on the information-seeking behavior of fifty-four high school juniors. The model-reinforcement procedures consisted of presenting an audio tape of a counselor-student interview in which the counselee modeled the desired behavior and was verbally reinforced by the model counselor. After listening to the audio tape, the subject was reinforced by the experimental counselor for verbal responses that indicated imitation of the model's behavior.

When reinforcement counseling procedures alone were used, the counselor verbally and non-verbally rewarded the subject for any information-seeking response made during the interview. The criterion adopted for the study was the number and variety of information-seeking activities engaged in by the subject within a three-week period following the experimental treatment. Follow-up interviews with the subjects were conducted at the end of the time period by individuals not otherwise connected with the study. These findings indicate that: (1) experimental subjects engaged in more information-seeking behavior outside the interview than control subjects; (2) reinforcement counseling produced significantly more external information-seeking behavior among females than among controls, but this did not hold true for males; (3) for males but not for females, model-reinforcement counseling produced significantly more external information-seeking behavior than control procedures; and (4) the ratio of information-seeking responses to other responses in the interview was positively correlated with external information-seeking behaviors.

The authors suggest that model-reinforcement counseling may have been more effective for males than for females because the model was a male who discussed only male interest and concerns. In addition, eight of the nine experimental counselors were female, which the authors postulate may have been a factor in the effectiveness of the reinforcement-only counseling.

Significant results for the use of social models in counseling were also found by Krumboltz and Thoresen (1964). Their study represented a replication and extension of the investigation by Krumboltz and Schroeder discussed above. The problem of this study was to determine which of the two counseling techniques investigated in the earlier study would be more effective for promoting the criterion behavior when applied in dyadic or small group settings. The major findings of this investigation were: (1) Model-reinforcement and reinforcement counseling were both significantly more effective in promoting information-seeking behavior in both individual and group settings than were the two control group procedures; (2) Model-reinforcement counseling was more effective than reinforcement counseling for males; and (3) Group model-reinforcement counseling was more effective for males than individual model-reinforcement counseling. For girls no significant differences were found between reinforcement or model-reinforcement procedures or between the types of group settings.

One very significant finding to both the Krumboltz and Schroeder and Krumboltz and Thoresen studies was that model-reinforcement counseling was more effective for males than females. These findings suggest that certain model or subject characteristics, or both in combination, may be important variables to consider in using social model procedures for counseling.

Social Model Characteristics

The need to explore the specific characteristics and behaviors of social models as well as special characteristics of observers to determine how they can be effectively utilized by counselors has been pointed out several times in the literature (Magoon, 1964; Robinson, 1963; Williamson, 1962). There is some evidence to indicate that certain model and subject characteristics significantly affect the degree to which observers emulate the behavior of models. A difference between the sex of the model and sex of the subject may influence the extent to which modeling behavior will be observed and imitated (Bandura, 1962; Bandura, Ross and Ross, 1961; 1963c; Rosenblith, 1959; Thoresen, Krumboltz and Varenhorst, 1965; Krumboltz and Schroeder, 1965; Krumboltz and Thoresen, 1964). Rosenblith found male experimenters to be more effective than females in influencing kindergarten children's behavior. Bandura, Ross and Ross (1961) obtained similar results in an investigation carried out to determine the influence of the sex of the model on the observer's imitative behavior. These experimenters exposed one half of the subjects to a model of the same sex and the rest to a model of the opposite sex. In general, an aggressive male model provided a more powerful stimulus for imitative aggressive behavior for both sexes than did an aggressive female model.

Thoresen, Krumboltz, and Varenhorst (1965) report results indicating the sex factor influences the degree of imitative behavior in model-reinforcement counseling. These authors found that various combinations of models, subjects and counselors arranged according to sex, influenced the degree of subject emulating behavior. Four types of social model audio tapes were used in this study: (1) Male counselor and male student, (2) Male counselor and female student, (3) Female counselor and male student, and (4) Female counselor and female student.

For male subjects a male counselor-male student model was most effective when presented by a male counselor. However, for females, it made little difference whether a male or female model was used; instead, the significant variable was the sex of the counselor. Both models were more effective when presented by a male counselor.

Other studies have also demonstrated the influence of sex differences in imitative learning. Bandura (in press) found that boys produced more imitative responses than girls, especially under conditions in which the model's behavior was punished rather than rewarded. Similarly, Brown (1956, 1958), showed boys more susceptible to influence by masculine models than girls. Brown's findings indicate female subjects displayed ambivalence to the masculine role preference exhibited by the male models.

While the results of these studies indicate that model sex may be a salient factor in influencing the degree of imitative behavior, the issue may also be discussed in terms of sex-appropriate behaviors. In the Krumboltz and Schroeder (1965) and Krumboltz and Thoresen (1964) studies, for example, the models discussed typically male oriented concerns and decisions. Thus the behavior of the model was more suitable for male imitation. A study by Heilbrun (1964) indicates that the sex-appropriate imitative behavior of an individual may be a function of the models to which he has been exposed. Heilbrun investigated the relationship between the sex role behavior in adolescents and the nurturance of their parents. He found that males raised in homes of more masculine and more nurturant fathers displayed more sex-appropriate behaviors than did males raised in less masculine and less nurturant homes.

Bandura, Ross, and Ross (1963b) also found the sex factor a significant variable in imitative learning. Their study showed that male subjects exposed to a female controller of rewards in the presence of a powerless and ignored male imitated the male more strongly than the female controller. In every other treatment situation (male dominant-female consumer; male dominant-female ignored; female dominant-male consumer), the controller of resources was the more strongly imitated. It may well be, as the study of Fauls and Smith (1956) suggests, that individuals learn to imitate models of the same sex because parents have reinforced sex-appropriate behavior and have punished sex-inappropriate behavior.

Social Power

Bandura and Walters (1963) suggest that models who are "...rewarding, prestigeful, competent,... high status, and who have control over rewarding resources are more readily imitated than are models who lack these qualities (p. 107)." Merely telling subjects the model was competent was found by Rosenbaum and Tucker (1962) to produce significantly greater imitative behavior among subjects than describing the model as incompetent. Subjects exposed to a warm, nurtant model (Bandura and Huston, 1961) also exhibited significantly greater imitative behavior than did individuals exposed to a cold, distant model.

A study by Lefkowitz, Blake, and Mouton (1955) used models attired in different clothing to simulate high or low status. The subjects (random groups of individuals on various street corners in

Austin, Texas) observed the models violating traffic regulations; i.e., walking across the street against the red light. The authors observed the consequent behavior on the part of the subjects and found that the behavior of the high status models was imitated to a greater degree than that of models of low status.

Numerous other attributes of social models have been studied to determine what model factors promote learning through imitative behavior. Models who are prestigeful (Asch, 1948; Maccoby, 1959; Mussen and Distler, 1959; Mausner, 1953; Krumboltz, Varenhorst and Thoresen, in press), competent, (Mausner and Bloch, 1957; Rosenbaum and Tucker, 1962) and powerful (Bandura, Ross and Ross, 1963b) have all been shown effective for promoting certain behaviors. Similarly, several studies indicate certain subject characteristics may also serve to facilitate imitative behavior. Individuals who are incompetent (Kanareff and Lanzetta, 1960) , lacking in self-esteem (deCharms and Rosenbaum, 1960; Gelfand, 1961), dependent (Kagan and Mussen, 1956), and who have been frequently rewarded for imitative behavior (Lanzetta and Kanareff, 1959, Miller and Dollard, 1941) are especially predisposed to imitate the behavior of models.

The above investigations strongly suggest that certain model characteristics and subject characteristics affect the degree to which observers emulate the behavior of models. A study by Krumboltz, Varenhorst, and Thoresen (in press) suggests that the degree of model counselor attentiveness and prestige may also be significant variables for increasing the frequency and variety of information-seeking behaviors.

In this study two video tapes were shown to female high school students. One tape presented a "low attentive" counselor, who seldom smiled or looked at the student, doodled, or sorted cards; the other tape presented a "high attentive" counselor, who smiled frequently, nodded and attended fully to the student. Counselor prestige was varied by introductory statements preceding the showing of the video tapes. The behavior of the student model and the verbal content were identical on both tapes. The results indicated that model-reinforcement counseling procedures were significantly more effective than the two control procedures in promoting the criterion behavior. A significant result of this study, however, was the failure of differences in the model counselor's attentiveness or prestige to significantly affect the information-seeking behavior of the student observers. During subsequent evaluation interviews, the authors found that the student observers attended primarily to the student model instead of the counselor in watching the video tape. This finding strongly suggests the need to explore experimentally specific characteristics of student models and their effect on the behavior of student observers.

Peer Social Models

According to the power theory of social influence (Maccoby, 1959; Mussen and Distler, 1959) adolescent models having considerable social power (prestige) should present a more potent stimulus for imitative behavior than models with low prestige. Social power, as defined by Bandura and Walters (1963), is the ability of a person to influence the behavior of others. Although the studies already reviewed indicate numerous attributes of a model are effective in promoting imitative behavior, no experimental evidence is currently available relating the social power hypothesis to the imitative behavior of adolescents.

Havighurst and Neugarten (1962) point out that the peer group is a powerful force in molding the behavior of individuals. Because the adolescent is always in a subordinate position in the adult world, he turns to the peer group in which he has equal status for learning many behaviors. These authors also maintain that certain areas of teaching and information-giving have become the special province of the peer group, and that it is this group which decides what knowledge is important and what is not. "Parents," Grinder (1965) alleges, "tend to relax their control with the advent of adolescence, while concurrently, peer and school models burgeon in their salience as administrators of cultural rewards and punishments."

There is some evidence (Coleman, 1961; Gordon, 1957; Havighurst and Neugarten, 1962; Tannenbaum 1960) that high school students are very sensitive to and aware of the athletic, academic, and social success of peers. According to Coleman, "Just as the adult society has models of success, so does the adolescent culture, perhaps to an even greater extent, since the adolescent culture is in greater flux. Its models of immediate success are other boys within the culture and may include boys who have achieved success in various fields (pp. 144-145)."

Gordon (1957) studied the social organization of the high school and found that four major groups -- athletic, music and club, dating, and academic -- were the main sources of prestige in the school. Similar findings were obtained by Coleman (1961) in a study of ten high school subcultures. In general, the student subcultures centered around non-academic values. For boys, athletic success, dating and extra-curricular activities were found to be the main sources of status. Coleman summarizes his data in the following terms: "In short, despite wide differences in parental background, type of community, and type of school, there was little difference in the standards of prestige, the activities which confer status, and the values which focus attention and interest. In particular, good grades and academic status had relatively low status in all schools (p. 338)."

A study by Tannenbaum (1960) supports the findings of Gordon (1957) and Coleman (1961). He had high school students rank their peers into eight categories. In this study the most popular student was perceived as bright (but not studious) and athletic.

Although the above results must be interpreted cautiously since they were almost entirely sociometric studies rather than investigations having a behavioral reference as a criterion, they do indicate that students are aware of and sensitive to the athletic, academic and social success of their peers. In addition they suggest that students want to be like and tend to emulate those individuals having high social status in the peer culture. Similar support for this postulation can be found in research studies of reference groups, attitude formation, and attitude change (Krech, Crutchfield and Ballachey, 1962). Thus the peer prestige hierarchy appears to be constructed in terms of athletic, social, and academic ability. Consequently, these kinds of ability could be potent factors in making social models more effective in influencing the behavior of observing students.

Similarity of Models and Subjects

Another factor in peer social models that may be an important variable in influencing imitative behavior is the similarity between the model and the observer. One of the major motives that mediate behavior change, according to Kagan (Kagan, 1958), is the desire of the individual to maximize similarity to a model. Subjects wish to maximize similarity to a desirable model in order to share vicariously in his resources. This process leads to identification with the model, which Kagan holds is of major importance in the establishment of unusually strong motivations for careers. Although there is no research at present which explores specifically the differential effect of providing peer social models highly similar to subjects, a few recent studies suggest self-perceived similarity of the subject to the model may be an important variable for promoting imitative behavior.

Burstein, Stotland, and Zander (1961) report a study in which children were found to accept the preferences of the model more readily when he was introduced to them as having a very similar background to themselves. Similarly, Sapolsky (1960) showed that the effectiveness of reinforcement in verbal conditioning may depend in part on the relationship between the experimenter and the subject. The author matched subjects with experimenters for similarity on the basis of a personality test and found that subjects compatible with the experimenters, as determined by the similarity of test scores, conditioned better than those who were incompatible.

The effectiveness of model and subject similarity as a factor for promoting reflective behavior among impulsive first grade children was investigated by Kagan et al., (1965). The authors compared the effectiveness of training in reflection under two conditions: (1) a normally nurturant condition between the child and tutor and (2) one in which the child was persuaded to believe that he shared some attributes with the tutor and by becoming more reflective could increase the number of shared characteristics. The authors assumed that the subject's desire to maximize similarity to a model would motivate the child to add to the number of shared similarities. Thus if the subject believed the tutor valued reflection he would be highly motivated to imitate this behavior. Significant results were not obtained, but the findings indicate the perceived similarity to the tutor facilitated reflective training for girls, but not for boys. Kagan and his associates point out, however, that the results suggest that future work with this variable might prove extremely valuable.

Summary

From a review of the literature, it is evident that there is considerable agreement among writers in counseling psychology that the learning of effective decision-making should be a primary objective in counseling. Basic to good decision-making is the gathering of relevant information about alternative courses of action.

It has been pointed out that little is currently known about the effectiveness of particular counseling procedures in helping students learn how to gather effectively information relevant to good decision-making. Recent research emanating from social learning theory (Bandura and Walters, 1963) has demonstrated that observing an appropriate social model has profound effects on the behavior of observers. Other studies (Krumboltz and Thoresen, 1964; Krumboltz and Schroeder, 1965; and Krumboltz, Varenhorst and Thoresen, in press) have clearly demonstrated that counseling techniques based on social modeling procedures are effective in motivating students to behave in predicted ways outside the counseling interview.

From the research that has been discussed previously, it is evident that numerous model characteristics -- e.g., prestige, competency, sex, etc., -- are effective variables in promoting imitative behavior. The model characteristics that have been investigated, however, have applied principally to adult models in a laboratory setting. No experimental evidence is presently available concerning what particular characteristics or peer social models are more effective with various kinds of high school students. A very significant result of the Krumboltz, Varenhorst, and Thoresen study (in press) was the failure of differences in the model counselor's prestige or attentiveness during the interview to affect the information-seeking behavior of student observers significantly. It is significant, however, that the authors found that during evaluation interviews student observers attended primarily to the student model in watching the video tape. This finding strongly suggests the need to explore experimentally the specifics of student models in terms of the effect of certain characteristics and behaviors on the behavior of the student observers.

The power theory of social influence (Maccoby, 1959; Mussen and Distler, 1959) suggests high school students emulate student models exhibiting considerable social power. While the components of prestige are very complex, the findings of Coleman (1961), Gordon (1957), and Tannenbaum (1960) indicate social models demonstrating considerable athletic, social, or academic success should be highly effective in influencing the behavior of the observing students.

On the other hand, the similarity hypothesis postulated by Kagan (1958) predicts high school students would engage in greater imitative behavior if the observer perceived the model as similar to himself. However, little experimental evidence is presently available to support this postulation. In addition no studies have been carried out to test the efficacy of the similarity hypothesis as a variable in influencing adolescent imitative behavior. The present study explores the use of peer social models in helping students to learn how to obtain relevant information needed for good decision-making. Specifically, this study tests the effectiveness of both the similarity and social power hypotheses in promoting imitative behavior among adolescent males. The investigation probes the effect of social models of varying degrees of athletic, academic, and social success on the information-seeking behavior of male high school juniors. By varying the prestigiousness of the model in all three areas, it should be possible to obtain information concerning the effectiveness of the social power variable in promoting imitative behavior among adolescents. In addition, by matching subjects with models of similar and different success levels, it is possible to test the potency of the similarity variable as a stimulus to imitative behavior.

The results of this investigation should aid counselors in devising appropriate models for different kinds of clients. If, for example, matching students and model characteristics is shown to influence imitative behavior significantly, counselors may find that "tailoring" specific kinds of models for specific kinds of students will aid greatly the effectiveness of the counseling process.

CHAPTER II

EXPERIMENTAL DESIGN AND PROCEDURES

Objectives and Overview of the Study

The main purpose of this study was to test the relative effect of student social models of varying degrees of athletic, academic and social success on the information-seeking behavior of male eleventh grade students. The subjects themselves also differed in the degree to which they were successful in these three areas of activity. The student social model procedure consisted of audio tape recordings of a counseling interview in which high, middle or low levels of success were ascribed to the model for each dimension--athletic, social, or academic. These levels of success were portrayed by the models throughout the model interview.

Two indices of subject success level were used. The first was the subject's assumed similarity to one of three vignettes in which a hypothetical student was described as having achieved a high, moderate, or low level of success academically, athletically or socially. The second was the vignette the subject chose as the one that described him as he would like to be. The vignettes and procedures are described in greater detail later in this chapter.

The criterion for measuring the effect of the various treatments was the frequency and variety of information-seeking behavior the subjects engaged in outside the counseling setting, relative to their educational and vocational plans.

The study used a modification of a "post-test only control group design" recommended by Campbell and Stanley (1963, p. 178). Randomization procedures (Tables of Random Numbers, Walker and Lev, 1953) were used to select all subjects and to assign all subjects to treatment and control groups. The order of tape presentation was randomized to control for serial effect and the type of treatment employed in each school setting was randomly determined.

Unique Aspects of the Study

The unique aspects of this study relative to research in guidance and counseling are:

1) This study attempted to demonstrate a functional relationship between specifically defined counseling procedures and operationally defined and observable counseling outcomes. In this respect the study differs markedly from many counseling studies in which broad or vague techniques have been employed and where subjective reports of feelings have been used as the criterion for evaluation. First, the present study utilized a rigorous experimental design highly recommended for research in an educational setting (Campbell and Stanley, 1963). Second, the treatments used are thoroughly defined so that an independent investigator can replicate the experiment. Finally, the dependent variable assessed in this investigation was a socially meaningful reponse class that has direct applicability to the school counseling setting.

2) The study incorporated a maximal degree of generalizability over populations due to (a) the close similarity between the experimental

conditions and conditions of application, i.e., "target population" (Kempthorne, 1961), (b) replication of treatments in different schools with different counselors, and (c) the randomization of subjects drawn from a "normal" eleventh grade population.

3) The sample consisted of students seeking counseling concerning their educational and vocational planning. This is in keeping with the basic premise that counseling be provided only for those who desire it.

4) Evaluation of the treatment employed was determined by reports of behavior outside the counseling interview rather than reporting apparent changes in behavior during the interview.

5) Many studies using social models have evaluated the degree of imitative behavior immediately after the exposure to the models. This study evaluated this criterion three weeks after the experimental treatment.

Questions and Hypotheses

From the discussion and rationale presented in Chapter I the following research questions and hypotheses were formulated for testing:

1. What is the effect of each of the following variables, as represented in a student social model, on the frequency and variety of the observer's information-seeking behavior: (a) degree of academic success, (b) degree of athletic success, and (c) degree of social success? The following hypothesis was tested:

> Subjects exposed to high or medium success models will engage in a greater frequency and variety of information-seeking behavior than will subjects exposed to low success models.

2. To what extent will the similarity of the student's own characteristics and the students model's characteristics affect the extent of the emulating behavior? The following hypothesis was tested:

> A significant interaction will occur between the success level of the social model and the success level of observers; observers will exhibit the most imitative behavior in response to models most similar to their own success level.

3. Will a specific type of model, e.g., athletic, be more effective in promoting imitative behavior among high school male students than academic or social type models?

4. Will individuals who aspire to greater success in a particular area respond differently to models representing varying degrees of success than subjects who are satisfied with their present levels of success?

5. For comparison with earlier studies using model-reinforcement techniques for promoting information-seeking behavior, the following hypothesis was tested:

> Students exposed to model-reinforcement counseling will engage in a significantly greater number of information-seeking behaviors than will similar students in an inactive control group.

Subjects

Because several studies suggest that differences occurring in imitative behavior may, in part, be due to differences between subject and model sex, only male subjects were used in this investigation. Prior to initiating the study, all eleventh grade males enrolled in four high schools in the vicinity of Stanford University were given a standardized invitation (vid. Appendix A) to see a special Stanford University counselor regarding their future educational and vocational planning. In addition to requesting the students to indicate whether or not they desired the special counseling, the invitations included vignettes (Appendix A) describing hypothetical individuals of varying degrees of athletic, academic and social success from which students were asked to pick (1) the vignette that best described them right now and (2) the vignette that best described the individual they would most like to be.

The main purpose of the vignettes was to identify the subject attained and desired success levels. Nine vignettes were used for these purposes. In three vignettes the academic success of a hypothetical student was discussed. One description presented the student as having attained a high degree of academic success, one presented a student of average success, and one presented the individual as unsuccessful on this dimension. Three similarly constructed vignettes were used for each of the athletic and social success areas.

The subjects were divided into high, medium, or low success groups according to the particular vignette they chose as most similar to themselves. These groups served as subject level-of-success pools from which the subjects were randomly assigned to treatment, control, and reserve groups. The second response to the vignettes was used at the conclusion of the study to determine whether subjects who desire to be more successful than they presently are differ significantly in the amount of imitative behavior carried out, from subjects similar in success level but who do not desire to become more successful.

The invitations and vignettes were distributed during the guidance period at each of the four high schools. Students absent on the day of the distribution were given the invitations upon their return to school. Table 1 shows the number of students at each high school in accordance with the particular vignettes chosen to represent their present and desired success levels.

High Schools. The four high schools participating in the study were: Sunnyvale High School, Sunnyvale, California; Cupertino High School, Cupertino, California; Fremont High School, Sunnyvale, California; and Homestead High School, Sunnyvale, California, Fremont, Cupertino and Homestead draw primarily from middle and upper-middle class families while Sunnyvale chiefly serves lower-middle and upper-lower class families.

Sunnyvale, Cupertino, and Homestead High Schools were randomly assigned the athletic, academic, and social model-type treatments, respectively. At each of these three schools, students were given only those vignettes relative to the particular model-type employed.

Since all three model-type treatments were used at Fremont High School, students were asked to respond to all nine vignettes. Table 2 indicates the assignment procedures employed as well as the procedure for ascertaining the subjects' levels of success for the three schools in which one model type was used. Table 3 presents the same information for Fremont High School.

Treatment Groups. A total of 27 active treatment groups and one control group were used in the investigation. In each treatment there were seven subjects for a total N of 189. For example, in one treatment

TABLE 1

NUMBER OF SUBJECTS IN EACH SCHOOL CHOOSING EACH VIGNETTE

High School	Vignette Type	Vignette Chosen as Present Success Level			Vignette Chosen as As Desired Success Level		
		High	Med.	Low	High	Med.	Low
Sunnyvale	Athletic	16	28	38	37	18	27
Homestead	Social	17	58	42	52	50	15
Cupertino	Academic	38	55	27	37	4	1
Fremont	Athletic	12	17	13	23	13	6
	Social	12	15	15	24	12	6
	Academic	12	18	12	29	12	1

TABLE 2

SUBJECT ASSIGNMENT PROCEDURES
SUNNYVALE, CUPERTINO, AND HOMESTEAD HIGH SCHOOLS

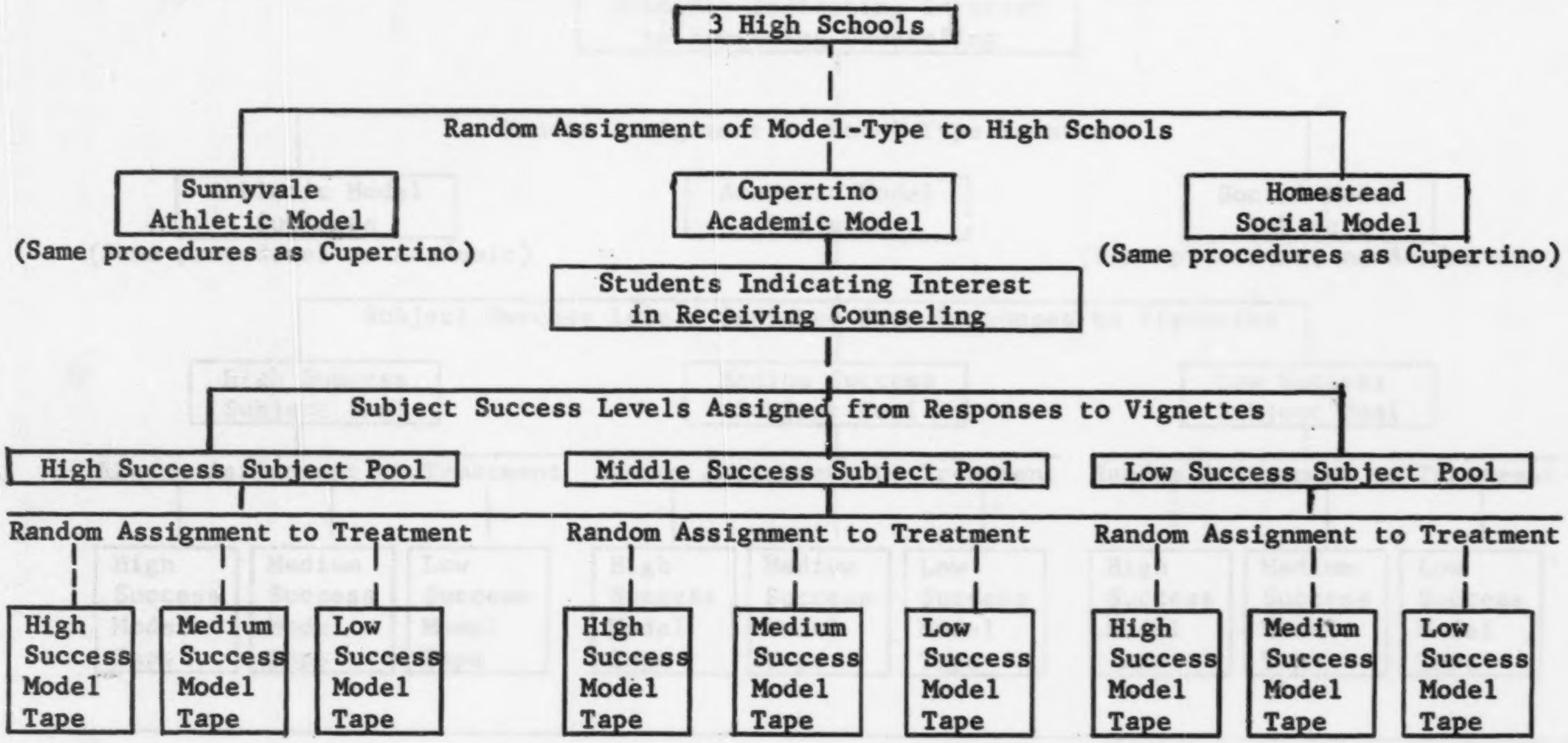
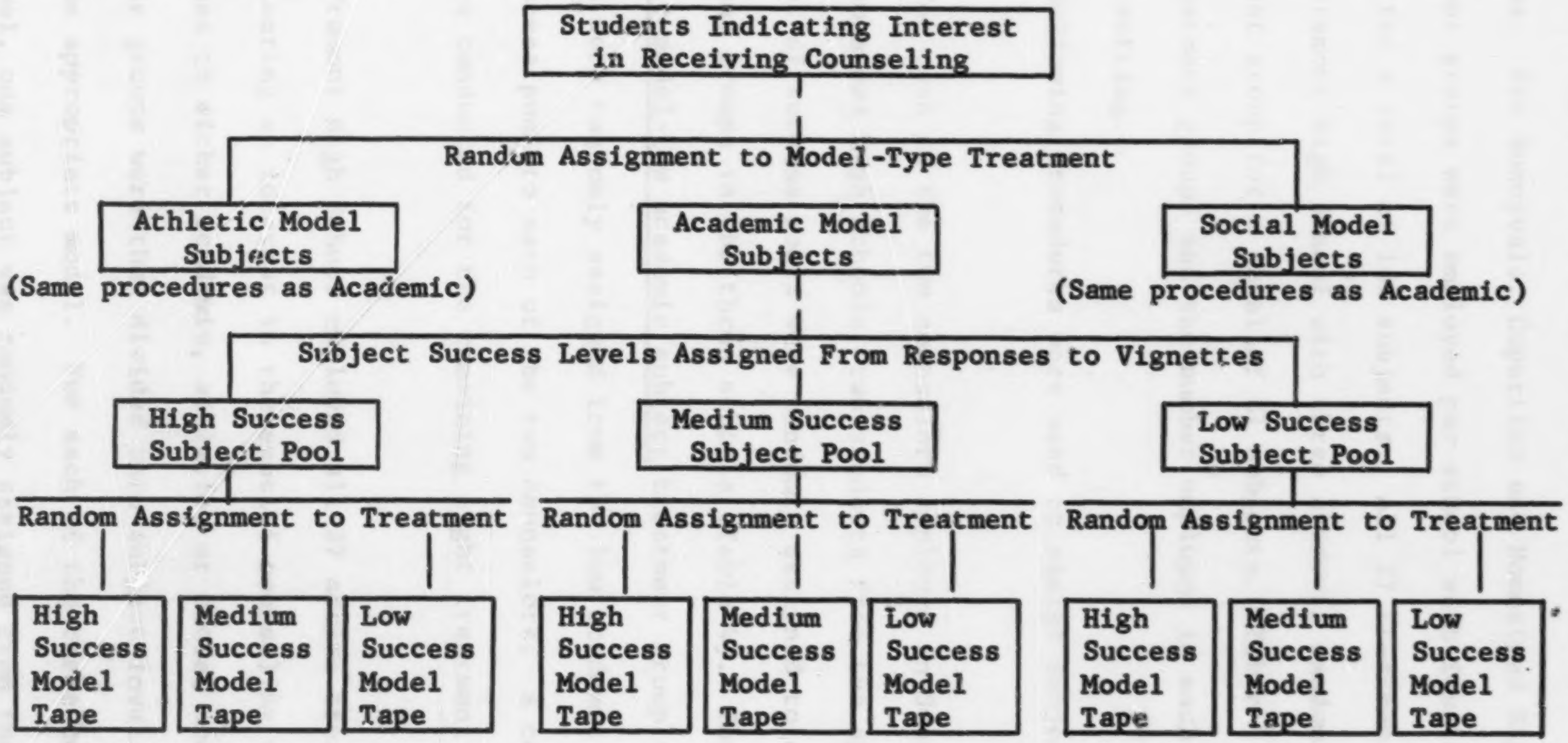

3 High Schools
Random Assignment of Model-Type to High Schools
Sunnyvale Athletic Model
(Same procedures as Cupertino)
Cupertino Academic Model
Homestead Social Model
(Same procedures as Cupertino)
Students Indicating Interest in Receiving Counseling
Subject Success Levels Assigned from Responses to Vignettes
High Success Subject Pool
Middle Success Subject Pool
Low Success Subject Pool
Random Assignment to Treatment
Random Assignment to Treatment
Random Assignment to Treatment
High Success Model Tape
Medium Success Model Tape
Low Success Model Tape
High Success Model Tape
Medium Success Model Tape
Low Success Model Tape
High Success Model Tape
Medium Success Model Tape
Low Success Model Tape

TABLE 3

SUBJECT ASSIGNMENT PROCEDURES AT
FREMONT HIGH SCHOOL


Students Indicating Interest in Receiving Counseling
Random Assignment to Model-Type Treatment
Athletic Model Subjects
(Same procedures as Academic)
Academic Model Subjects
Social Model Subjects
(Same procedures as Academic)
Subject Success Levels Assigned From Responses to Vignettes
High Success Subject Pool
Medium Success Subject Pool
Low Success Subject Pool
Random Assignment to Treatment
Random Assignment to Treatment
Random Assignment to Treatment
High Success Model Tape
Medium Success Model Tape
Low Success Model Tape
High Success Model Tape
Medium Success Model Tape
Low Success Model Tape
High Success Model Tape
Medium Success Model Tape
Low Success Model Tape

group a high academic success model was used with subjects of low academic success. For Sunnyvale, Cupertino and Homestead High Schools, nine treatment groups were employed per school with four subjects in each group, for a total of 108 subjects. All 27 treatments were administered at Fremont High School with three students randomly assigned to each treatment group for a total of 81 subjects. Table 4 presents the types of treatment groups and the number employed in each group in each school setting.

The following procedures were used to assign subjects to treatment groups:

1. For each of the two counselors employed in Sunnyvale, Cupertino, and Homestead High Schools, two students from the appropriate subject level of success pools were randomly assigned to each of the nine treatment groups in the three schools (Table 4). Thus, in the high academic model-low academic subject treatment group at Cupertino, two subjects were randomly assigned from the low academic subject level-of-success pool to each of the two counselors. A corresponding procedure was conducted for the remaining eight treatment groups at this school.

2. Fremont High School employed all 27 active treatments. Each student indicating an interest in the special counseling was first randomly assigned to either academic, athletic, or social model-type treatments. These groups were then divided into subject level-of-success pools for the appropriate model. For each of the three counselors used in this school, one subject was randomly assigned from the proper level-of-success pools to each of the 27 treatment groups.

TABLE 4

TYPES OF TREATMENT GROUPS AND NUMBER OF Ss IN EACH GROUP

ACADEMIC

(Cupertino - 2 Ss randomly assigned each counselor, each treatment group.)

Subject Success	Model Success		
	High	Med.	Low
High	4	4	4
Med.	4	4	4
Low	4	4	4

(Fremont - one S randomly assigned each counselor, each treatment group.)

Subject Success	Model Success		
	High	Med.	Low
High	3	3	3
Med.	3	3	3
Low	3	3	3

ATHLETIC

(Sunnyvale - 2 Ss randomly assigned each counselor, each treatment group.)

Subject Success	Model Success		
	High	Med.	Low
High	4	4	4
Med.	4	4	4
Low	4	4	4

(Fremont - one S randomly assigned each counselor, each treatment group.)

Subject Success	Model Success		
	High	Med.	Low
High	3	3	3
Med.	3	3	3
Low.	3	3	3

SOCIAL

(Homestead - 2 Ss randomly assigned each counselor, each treatment group.)

Subject Success	Model Success		
	High	Med.	Low
High	4	4	4
Med.	4	4	4
Low	4	4	4

(Fremont - one S randomly assigned each counselor, each treatment group.)

Subject Success	Model Success		
	High	Med.	Low
High	3	3	3
Med.	3	3	3
Low	3	3	3

3. A control group of 36 subjects was obtained by randomly assigning two subjects from each of the subject level-of-success pools in each high school. For the three high schools in which only one model-type was used, six subjects, two from each level-of-success pool, were assigned from each school to serve as controls. Fremont, which had the same number of subject level-of-success pools as the three other high schools combined, had eighteen subjects randomly assigned to serve as controls.

4. A reserve group, consisting of those students indicating a desire for counseling but not included in the treatment or control groups, was formed to be used as a source of subjects in the event initially selected subjects became unavailable for counseling. Two students at Homestead High School were randomly drawn from the appropriate level-of-success pool and served as subjects due to the extended illness of two original subjects.

5. The total number of subjects included in the study was 189 in treatment groups, 36 inactive controls, for a total N of 225.

Special Counselors

The eight female and one male special counselors who took part in the study were counseling interns enrolled in a counseling practicum course (Education 333c) at Stanford University during the 1965-66 academic year. These graduate students were assigned at the beginning of the year to the participating schools to be a part of the schools' counseling staffs. Two students were assigned to Sunnyvale, Homestead, and Cupertino. Due to the large student body of Fremont High School, three interns were assigned to that school. For statistical purposes these nine counselors were considered a random sample of counselors drawn from a hypothetical population of counselors. Although there is reason to believe these counselors are comparable to counselors in general, the results can only be strictly generalized to populations of counselors essentially similar to counseling interns at Stanford University.

Table 5 provides information relative to the background of the special counselors employed in this study.

Training of Counselors. In addition to eight hours per week of on-the-job training in their respective schools, a weekly seminar was held at Stanford University in which the following counselor training activities were implemented:

1) Readings and discussions of the behavioral approach to counseling and the principles of social modeling. Basically the writings of Krumboltz, Bandura, Gelatt, and Lofquist and England were used.

2) Extensive practice in role playing the counselor-counselee relationship was provided. High school students from schools not associated with the Stanford University counseling intern program were employed as clients for the counselors for supervised counseling practice at the University.

3) Practice in the use of tape recorders was provided so that the counselors would be more sophisticated in their use before the implementation of the study.

TABLE 5

BACKGROUND OF SPECIAL COUNSELORS

Sex	Year in Graduate School	Years Teaching Experience Elementary	Years Teaching Experience Secondary	Previous Counseling Experience	Undergraduate Major
Female	First	2	0		Education
Female	First	1	0		Elementary Ed.
Female	Second	0	0	1 year	Psychology
Female	First	10	0		Home Economics
Female	First	0	0	2 years	Psychology
Female	Second	0	1*		Business
Female	First	1	0		Education
Female	Second	0	14		Home Economics
Male	Third	0	2		Political Sci.

*Teaching Internship

4) Tape recordings were made of practice counseling interviews to provide a comprehensive feedback for the instructor and intern in evaluating the intern's counseling techniques.

5) Prior to beginning the study, the interns were given practice using the model tapes that were later used in the study. Students not enrolled in the participating high schools were used as "subjects".

Description of Experimental Treatments

Nine tape recordings of a male counselor and a male student were prepared. The counselor was a doctoral student in counseling psychology at Stanford University with several years high school counseling experience. The model subject was an eleventh grade male student enrolled in a Palo Alto high school not otherwise connected with the study.

The model counseling interviews were 15 minutes long. On three model tapes information was brought forth regarding the relative athletic success of the counselee, three were concerned with the academic success of the model, and three focused on the social success of the model student being counseled. Social success as used in these tapes referred to student success in school activities, dating, and membership in school clubs. For each of the three dimensions, holding other information constant, one tape presented the model as having achieved a high degree of success, one indicated medium success, and the third presented the model as unsuccessful on this dimension.

The model tapes were prepared similar in manner to those of the earlier studies of Krumboltz and Schroeder (1965) and Krumboltz and Thoresen (1964). The same model student was used as the counselee on all tapes. The interaction between the model counselor and model student provided the observer with information relative to the model's athletic, social, or academic success level. In addition, the student model asked questions relative to his future educational and vocational decisions, the counselor reinforced the question-asking behavior, and a plan of action was formulated for the model student to obtain relevant information about his future plans. A transcription of the high social model tape plus variations used in the other eight tapes is found in Appendix B.

The Interview. The experimental treatments were randomly arranged to control for serial effect. Thus, no one combination of model tape-subject success, such as low model tape-low subject was always the last counselor interview for a given day or for the total study. After the counselor introduced himself, he began the interview similar to:

> "The purpose of our getting together today is to discuss ideas about your post-high school plans. A very important part of making future plans is obtaining relevant information from which you can make good decisions. Before we start discussing this, I though you might be interested in hearing a tape recording of a student who faced a problem similar to yours. Chris, the boy on the tape, made some excellent decisions and is now quite successful. Maybe by listening to what he did to gain information, you might get some ideas of things you might do before making your decisions."

The 15-minute interview was then played after which the experimental counselor said in effect:

> "Well, ____________, why don't you summarize some of the things you might do to gain information about your future plans? It might be helpful to jot these things down so that you can take them with you."

After asking for and answering any questions the subject had relative to the interview, the experimental counselor verbally reinforced information-seeking responses and suggested that the subject begin acting on some of the suggestions. The interview was terminated with the counselor relating:

> "I'll be interested in learning of some of your plans after you've gathered your information. If you'd like to discuss them further with me, you can arrange an appointment with the counselor's secretary. Goodbye _______________."

Control Procedures. The thirty-six subjects randomly assigned to this treatment group received no special counseling. They did, however, participate in their school's regular counseling program as did the experimental subjects. The only special contact made with these subjects was for purposes of evaluation three weeks after the completion of the experimental treatments.

Measurement of Information-Seeking Behavior: The Dependent Variable

The dependent variables measured in this investigation were the frequency and variety of information-seeking behaviors engaged in by the subjects outside the counseling interview during the three-week period following the experimental treatment.

During the fourth week from the date of the counseling interview, each student was interviewed by a member of a team of paid investigators. The control group interviews were randomly intermixed with those of the experimental subjects. The interviewer did not know the subject's level-of-success nor the particular treatment experienced.

The evaluation interview followed a detailed interview outline (vid. Appendix C) designed to elicit the subject's self report of information-seeking behavior. Other questions were included to which all subjects could give affirmative responses. The evaluation interview provided information concerning the subject's information-seeking behavior relative to the following activities:

1) Obtaining relevant printed information from:

   a. guidance department
   b. school library
   c. public library
   d. other sources via personal contact
   e. other sources via mail

2) Information-seeking contact with people connected with a vocational area.

   a. high school personnel
   b. relative
   c. other

3) Information-seeking contact with people indirectly connected with a vocational area of interest.

   a. high school personnel
   b. relative
   c. other

4) Information-seeking contact with people personally connected with an educational institution.

   a. high school personnel
   b. institution in question
   c. other

5) Information-seeking contact with people indirectly connected with an educational institution.

   a. high school personnel
   b. relative
   c. other

6) Seeking part-time employment in area of occupation interest.

7) Seeking to change high school courses because of changed goals or interests.

8) Making trip or plans to visit scene of relevant:

   a. occupation
   b. educational institution

9) Asking to take psychological tests.

10) Reporting that a decision was made at least partially on the basis of information gained.

For each subject two scores were derived from the interview protocol, the frequency and variety of information-seeking behavior. The frequency was obtained by summing the total number of information-seeking behaviors engaged in by the subjects; e.g., talking to four different persons regarding a vocation provided a frequency of four. The variety of information-seeking behavior was determined by counting the number of different types of behavior; e.g., talking to four different people and writing to three different colleges for catalogs constituted only two different varieties of information-seeking behavior.

Confirmation-Invalidation Procedures

A random sample of seven percent of the subjects were chosen for objective confirmation after the evaluation interviews were completed. The purpose of the further investigation was to determine the accuracy of the subjects' self reports. Research evidence is available, however, indicating that subjects in similar situations did not falsify their self reports of information-seeking behavior (Krumboltz and Schroeder, 1965; Krumboltz and Thoresen, 1964).

The follow-up procedures were carried out by a member of the evaluation team. The procedures used included such activities as interviewing parents, teachers, or other persons with whom the subject reported talking; writing to college registrars to ascertain whether the subject did write for information; and checking the validity of other activities reported carried out by the subject. The purpose was to determine whether the reported behavior had been carried out during the three-week post-experimental period.

Table 6 provides the results of these confirmation procedures. Although absolute confirmation of the subjects' reported information-seeking behaviors was not obtained by this follow-up procedure, sixty-three subject responses were confirmed and none was invalidated. Twenty-five responses were found unconfirmable. In most cases a response was denoted unconfirmable when the counselor, teacher, or other reported source was not absolutely certain that the reported conversation took place on the date stated and/or on the particular subject reported by the student. Three specific responses found unconfirmable were:

1) One student reported attending a court session in San Francisco to learn what a lawyer does in court.

2) One subject requested a catalog from the University of California, Berkeley. The University reported they no longer had a record of catalogs requested for the specific date in question.

3) One male reported visiting Foothill College but interviewing no person in particular.

TABLE 6

NUMBER OF INFORMATION-SEEKING ACTIVITIES CONFIRMED OR INVALIDATED

Category	Confirmed	Invalidated	Unconfirmable	Failure to Complete Investigation	Total Reported
1. Writing to request college pamphlet, catalog or occupational pamphlet	1	0	6	0	7
2. Reading magazine articles about considered occupations	1	0	1	0	2
3. Reading other material about occupations	3	0	2	0	5
4. Reading books about admittance to schools or colleges considered	2	0	4	0	6
5. Talking to people (other than teachers) who are working or have worked in an occupation to be considered	3	0	1	0	4
6. Talking to people (other than teachers) who are familiar with the occupation being considered, but not personally experienced in it	4	0	1	0	5

Category	Con- firmed	Invali- dated	Uncon- firmable	Failure to Complete Investigation	Total Reported
7. Talking to teachers about occupations	4	0	1	0	5
8. Talking to persons who are now attending or have attended a school being considered	3	0	3	0	6
9. Talking with people (other than teachers) who are knowledgeable about one of the schools being considered, though they have not attended it	3	0	2	0	5
10. Talking to teachers or counselors about the schools being considered	2	0	1	0	3
11. Visiting schools that are being considered	1	0	1	0	2
12. Viewing T. V. programs, exhibits or shows or listening to radio programs about an occupation being considered	1	0	2	0	3

Category	Con-firmed	Invali-dated	Uncon-firmable	Failure to Complete Investigation	Total Reported
13. Making an on-the-job visit to an occupation being considered	1	0	0	0	1
14. Making definite plans to make an on-the-job visit to an occupation being considered	1	0	0	0	1
15. Talking to regular high school counselor for purpose of gaining self-information relevant to future plans	2	0	0	0	2
16. Obtaining or making definite plans to obtain a summer or part-time job that is connected with an occupation being considered	4	0	0	0	4
17. Taking or making definite plans to take tests for the purpose of discovering self-information relevant to future plans	2	0	0	0	2
TOTAL	38	0	25	0	63

CHAPTER III

RESULTS

This chapter presents an analysis of the results summarized under each hypothesis. A 3 x 3 x 3 analysis of variance was computed for testing all three main effects, (model success levels, subjects success levels, and counselor) and all first and second order interactions for the three schools in which only one model type, e.g., academic, was employed. A 3 x 3 x 3 x 3 analysis of variance was used on the Fremont High School data with type of model, model success, subject success, and counselor as the main effects. Interactions were analyzed between these independent variables. The facilities of the Stanford University Computer Center, using the BMD02V - Analysis of Variance for Factorial Design, were used in the statistical computations. Tests for computing t ratios were carried out when the F ratio indicated significant differences might exist between respective group means. The t ratios were computed according to procedures suggested by McNemar (1962, pp. 285-286).

The two variables for each of the aforementioned statistical tests were the frequency and variety of information-seeking behaviors engaged in by the subjects during the three-week post-experimental period. Table 7 provides the mean frequency of information-seeking behavior for each treatment group, model success level, subject success level and school. The same information for the variety of information-seeking behavior is found in Table 8. A summary of the analysis of variance on

TABLE 7

MEANS OF FREQUENCY OF INFORMATION-SEEKING BEHAVIOR FOR TREATMENT GROUP, MODEL SUCCESS LEVEL, SUBJECT SUCCESS LEVEL AND SCHOOL

Sunnyvale-Athletic

Subject Success	Model Success High	Med.	Low	
High	8.00	6.50	5.00	6.50
Med.	6.00	5.25	7.00	6.08
Low	5.00	8.50	1.50	5.08
	6.33	6.75	4.50	5.86

Homestead-Social

Subject Success	Model Success High	Med.	Low	
High	5.50	8.00	4.00	5.83
Med.	2.50	5.75	4.50	4.25
Low	3.25	5.00	3.00	3.75
	3.75	6.25	3.85	4.61

Cupertino-Academic

Subject Success	Model Success High	Med.	Low	
High	5.25	7.50	5.00	5.25
Med.	5.75	3.00	4.00	4.25
Low	2.00	3.75	1.25	2.33
	3.67	4.75	3.42	3.94

Fremont-Athletic

Subject Success	Model Success High	Med.	Low	
High	5.33	7.00	2.67	5.00
Med.	8.33	4.33	6.33	6.33
Low	5.00	5.33	8.33	6.22
	6.22	5.55	5.78	5.85

Fremont-Social

Subject Success	Model Success High	Med.	Low	
High	6.67	6.00	5.00	5.89
Med.	2.67	8.00	5.67	5.45
Low	6.67	3.67	6.67	5.67
	5.34	5.89	5.78	5.67

Fremont-Academic

Subject Success	Model Success High	Med.	Low	
High	8.00	7.67	6.67	7.45
Med.	5.00	8.33	3.00	5.44
Low	5.33	3.33	3.00	3.89
	6.11	6.44	4.22	5.59

TABLE 8

MEANS OF VARIETY OF INFORMATION-SEEKING BEHAVIOR FOR TREATMENT GROUP, MODEL SUCCESS LEVEL, SUBJECT SUCCESS LEVEL AND SCHOOL

Sunnyvale-Athletic

Subject Success	Model Success			
	High	Med.	Low	
High	7.00	6.00	4.25	5.75
Med.	5.00	5.00	5.75	5.25
Low	4.50	7.75	1.25	4.50
	5.50	6.25	3.75	5.17

Homestead-Social

Subject Success	Model Success			
	High	Med.	Low	
High	4.75	4.75	3.00	4.17
Med.	2.00	4.00	3.50	3.17
Low	4.00	4.25	3.00	3.75
	3.58	4.33	3.17	3.69

Cupertino-Academic

Subject Success	Model Success			
	High	Med.	Low	
High	2.50	5.75	5.00	4.42
Med.	4.50	3.00	3.25	3.58
Low	2.00	3.50	1.25	2.25
	3.00	4.08	3.17	3.42

Fremont-Athletic

Subject Success	Model Success			
	High	Med.	Low	
High	4.00	6.00	2.67	4.22
Med.	6.33	4.00	5.33	5.22
Low	4.67	4.33	6.67	5.22
	5.00	4.78	4.89	4.89

Fremont-Social

Subject Success	Model Success			
	High	Med.	Low	
High	4.33	4.33	4.33	4.33
Med.	2.00	6.67	6.33	5.00
Low	5.67	3.33	6.33	5.11
	4.00	4.78	5.66	4.81

Fremont-Academic

Subject Success	Model Success			
	High	Med.	Low	
High	6.67	6.00	5.33	6.00
Med.	4.67	6.33	2.33	4.44
Low	5.33	3.33	2.67	3.78
	5.56	5.22	3.44	4.74

the frequency of information-seeking behavior for each school is presented in Tables 9 - 12. Tables 13 - 16 provide the same data for the second dependent variable, variety of information-seeking behavior.

Comparison of Treatment Groups

The first experimental question stated: "What effect will each of the following variables as represented in a student model have on the degree to which an observer increases the frequency and variety of his information-seeking behavior: (1) degree of academic success, (2) degree of athletic success, and (3) degree of social success?" The following hypothesis was tested:

> Subjects exposed to high or medium success models will engage in a greater frequency and variety of information-seeking behaviors than will subjects exposed to low success models.

Each of the above questions relative to the hypothesis is treated according to the school employing that particular model type.

Academic Success Model. Tables 9 and 13 presents the analysis of variance performed on the Cupertino (academic model type) data. On the basis of these analyses we would not reject the null hypothesis. The evidence failed to confirm that the degree of academic success level of the model exerted a significant effect on the subject's frequency or variety of information-seeking behavior. Table 12 and Table 16 provide the data for Fremont High School. Failure to find a significant F between model success levels across model types for either frequency or variety of information-seeking behavior precludes further analysis and the null hypothesis is again accepted. Table 17 presents

TABLE 9

ANALYSIS OF VARIANCE BASED UPON FREQUENCY OF INFORMATION-SEEKING BEHAVIOR

CUPERTINO-ACADEMIC

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Subject Success	2	52.72	26.36	4.79*
2 Model Success	2	12.05	6.02	1.09
3 Counselor	1	40.11	40.11	7.29*
12	4	53.11	13.27	2.41
13	2	0.72	0.36	.06
23	2	9.05	4.52	.32
123	4	19.11	4.77	.86
Within	18	99.00	5.50	
Total	35	285.88		

* = $p < .05$

TABLE 10

ANALYSIS OF VARIANCE BASED UPON FREQUENCY OF INFORMATION-SEEKING BEHAVIOR

SUNNYVALE-ATHLETIC

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Subject Success	2	14.38	7.19	1.73
2 Model Success	2	34.38	17.19	4.15*
3 Counselor	1	90.25	90.25	21.80***
12	4	87.77	21.94	5.30**
13	2	1.16	0.58	.14
23	2	6.50	3.25	.78
123	4	37.33	9.33	2.25
Within	18	74.50	4.13	
Total	35	346.30		

* = $p < .05$
** = $p < .01$
*** = $p < .001$

TABLE 11

ANALYSIS OF VARIANCE BASED UPON FREQUENCY OF INFORMATION-SEEKING BEHAVIOR

HOMESTEAD-SOCIAL

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Subject Success	2	28.38	14.19	1.25
2 Model Success	2	48.38	24.19	2.14
3 Counselor	1	0.00	0.00	0.00
12	4	15.27	3.81	.33
13	2	6.16	3.08	.27
23	2	0.16	0.08	.00
123	4	27.16	6.79	.60
Within	18	203.00	11.27	
Total	35	328.55		

TABLE 12

ANALYSIS OF VARIANCE BASED UPON FREQUENCY OF INFORMATION-SEEKING BEHAVIOR

FREMONT

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Model Type	2	1.20	0.60	.10
2 Model Success	2	9.95	4.97	.83
3 Counselor	2	29.20	14.60	2.44
4 Subject Success	2	9.95	4.97	.83
12	4	19.38	4.84	.81
13	4	3.45	0.86	.14
14	4	57.60	14.40	2.41
23	4	4.93	1.23	.20
24	4	52.19	13.04	2.18
34	4	82.27	20.56	3.44*
123	8	42.83	5.35	.89
124	8	112.69	14.08	2.35
134	8	24.61	3.07	.51
234	8	73.80	9.22	1.54
Residual	16	95.53	5.97	
Total	80	619.65		

* = $p < .05$

TABLE 13

ANALYSIS OF VARIANCE BASED UPON VARIETY OF INFORMATION-SEEKING BEHAVIOR

CUPERTINO-ACADEMIC

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Subject Success	2	28.66	14.33	4.12*
2 Model Success	2	8.16	4.08	1.17
3 Counselors	1	14.69	14.69	4.23
12	4	30.66	7.66	2.20
13	2	1.55	0.77	.22
23	2	11.05	5.52	1.59
123	4	9.44	2.36	.68
Within	18	62.50	3.47	
Total	35	166.74		

* = $p < .05$

TABLE 14

ANALYSIS OF VARIANCE BASED UPON VARIETY OF INFORMATION-SEEKING BEHAVIOR

SUNNYVALE-ATHLETIC

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Subject Success	2	9.50	4.75	1.22
2 Model Success	2	39.50	19.75	5.07*
3 Counselor	1	40.11	40.11	10.31**
12	4	62.00	15.50	3.98*
13	2	0.38	0.19	.03
23	2	2.39	1.19	.30
123	4	17.11	4.27	1.09
Within	18	70.00	3.88	
Total	35	240.99		

* = $p < .05$

** = $p < .01$

*** = $p < .001$

TABLE 15

ANALYSIS OF VARIANCE BASED UPON VARIETY OF INFORMATION-SEEKING BEHAVIOR

HOMESTEAD-SOCIAL

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Subject Success	2	6.50	3.25	.63
2 Model Success	2	10.16	5.08	.99
3 Counselor	1	0.69	0.69	.13
12	4	10.83	2.70	.52
13	2	1.05	0.52	.10
23	2	1.05	0.52	.10
123	4	16.94	4.23	.79
Within	18	95.50	5.30	
Total	35	142.74		

TABLE 16

ANALYSIS OF VARIANCE BASED UPON VARIETY OF INFORMATION-SEEKING BEHAVIOR

FREMONT

Source of Variation	Degrees of Freedom	Sums of Squares	Variance Estimates	F
1 Model Type	2	0.51	0.25	.05
2 Success of Model	2	4.51	2.25	.46
3 Counselor	2	22.51	11.25	2.31
4 Subject Success	2	1.55	0.77	.16
12	4	20.96	5.24	1.07
13	4	8.79	2.18	.44
14	4	28.37	7.09	1.45
23	4	1.85	0.46	.09
24	4	32.37	8.09	1.66
34	3	27.92	6.98	1.43
123	8	26.44	3.30	.68
124	3	55.92	6.99	1.43
134	8	10.59	1.32	.27
234	8	43.14	5.26	1.08
Residual	16	77.77	4.86	
Total	80	362.22		

the means by model success for these two schools. Inspection of this table shows the subjects exposed to low success academic models did engage in fewer information-seeking behaviors than did subjects exposed to medium or high success models. For Fremont High School this trend is particularly evident but the differences failed to reach conventional significance levels.

Athletic Success Model. Tables 10 and 14 present the analyses of variance for the frequency and variety of information-seeking behavior for Sunnyvale High School. On the basis of these analyses, we would reject the null hypothesis and conclude that the degree of athletic success of the model significantly affected both the frequency and variety of information-seeking behaviors of the subjects. The obtained mean score differences between the models would occur by chance alone less than five times in a hundred if the null hypothesis were true. The significant subject success-model success interaction at Sunnyvale makes any interpretation of main effects tentative (McNemar, 1962). However, contrasts were made between model success levels to determine which levels were most effective in promoting the criterion behaviors. The second half of Table 18 presents the results of t-tests computed between the model success levels for the frequency and variety of information-seeking behaviors. On the basis of this analysis we may conclude high and medium athletic success models were more effective in promoting both criterion behaviors than was the low athletic model at Sunnyvale High School. Inspection of Tables 12 and 16 indicates similar results for the degree of athletic success of the model were not obtained at Fremont High School. For this school we would not reject the null hypothesis. The evidence for this school failed to confirm that the degree of athletic success of the model significantly affected the frequency and variety of information-seeking activities of the subjects.

TABLE 17

MEAN FREQUENCY AND MEAN VARIETY OF INFORMATION-SEEKING BEHAVIOR

ACADEMIC MODEL

	N	$\overline{M}$ Freq.	$\overline{M}$ Variety
Cupertino			
High Success	12	3.67	3.00
Medium Success	12	4.75	4.08
Low Success	12	3.41	3.16
Fremont			
High Success	9	6.11	5.00
Medium Success	9	6.44	4.78
Low Success	9	4.22	4.89
Combined			
High Success	21	4.72	4.33
Medium Success	21	5.47	4.33
Low Success	21	3.76	4.04

Table 18 presents the means for each success level as well as the combined means of Sunnyvale and Fremont for the athletic model treatments. The t ratios computed between the combined means failed to reach the .05 level and are not reported.

Social Success Model. Inspection of Tables 11 and 15 indicate we would not reject the null hypothesis for Homestead. The evidence failed to confirm that the degree of social success ascribed to the

TABLE 18

MEAN FREQUENCY AND MEAN VARIETY OF INFORMATION-SEEKING BEHAVIOR

ATHLETIC MODEL

	N	$\overline{M}$ Freq.	$\overline{M}$ Variety
Sunnyvale			
High Success	12	6.33	5.50
Medium Success	12	6.75	6.25
Low Success	12	4.50	3.75
Fremont			
High Success	9	6.22	5.00
Medium Success	9	5.56	4.78
Low Success	9	5.78	4.89
Combined			
High Success	21	6.28	5.29
Medium Success	21	6.24	5.95
Low Success	21	5.04	4.24

GROUP MEANS, N's AND t RATIOS OF FREQUENCY AND VARIETY OF INFORMATION-SEEKING BEHAVIOR

ATHLETIC MODEL-SUNNYVALE

	High Model			Low Model			
	N	$\overline{M}$	SD	N	$\overline{M}$	SD	t
Frequency	12	6.33	2.62	12	4.50	3.14	1.83*
Variety	12	5.50	2.18	12	3.75	2.55	1.80*

	Medium Model			Low Model			
	N	$\overline{M}$	SD	N	$\overline{M}$	SD	t
Frequency	12	6.75	2.74	12	4.50	3.14	1.87*
Variety	12	6.25	2.18	12	3.75	2.55	2.57**

* = $p < .05$, one-tail
** = $p < .01$, one-tail

model exerted a significant effect on the degree to which the observer increased the frequency and variety of his information-seeking behavior at this school. Analyses of the Fremont data are presented in Tables 12 and 16. Again we were unable to demonstrate a significant difference between the social success levels of the model on the frequency and variety of information-seeking behavior. Table 19 presents the mean frequency and variety of information-seeking behaviors by the social-model treatment groups. Inspection of Table 19 indicates large mean differences for the frequency of information-seeking behavior exist at Homestead. The mean of the medium success level model is considerably above that of the high or low success level model. These differences fail to reach conventional significance levels due to the large error term (Table 11) found for this school.

TABLE 19

MEAN FREQUENCY AND MEAN VARIETY OF
INFORMATION-SEEKING BEHAVIOR

SOCIAL MODEL

	N	$\bar{M}$ Freq.	$\bar{M}$ Variety
Homestead			
High Success	12	3.75	3.25
Medium Success	12	6.25	4.33
Low Success	12	3.83	3.16
Fremont			
High Success	9	5.33	4.00
Medium Success	9	5.89	4.70
Low Success	9	5.78	5.78
Combined			
High Success	21	4.43	3.57
Medium Success	21	5.86	4.48
Low Success	21	4.66	4.19

Question 2. The hypothesis for question two states:

> A significant interaction will occur between the success level of the social model and the success level of observers, i.e., observers will exhibit the most imitative behavior in response to models most similar to their own success level.

For Sunnyvale significant interactions for both the frequency and variety of information-seeking behaviors were obtained between subject level of success and model level of success. Inspection of Table 9 shows the interaction for frequency was significant at the .01 level; i.e., we reject the null hypothesis because the interaction would occur by chance alone less than one time in a hundred if the null hypothesis were true. For variety of information-seeking behavior (Table 14) the interaction would occur by chance alone less than five times in a hundred if the null hypothesis were true.

Having demonstrated significant interactions for subject success-model success for the athletic model type, the means of the diagonal cell (high subject success-high model success, medium subject success-medium model success and low subject success-low model success treatment groups) were compared with the means of the off-diagonal cells. This procedure was done to determine if subjects exposed to models similar to themselves did engage in greater imitative behavior than subjects exposed to dissimilar models. A summary of the t-tests computed is given in Table 20.

On the basis of this analysis we would not reject the null hypothesis. The evidence failed to confirm that the interaction between subject level of success and model level of success can be attributed to the similarity or dissimilarity of model and subject. In addition to showing that the mean differences did not reach conventional levels of significance, Table 20 shows the direction of the mean differences was opposite to that hypothesized. Thus subjects exposed to dissimilar models engaged in a greater number and variety of information-seeking activities than subjects exposed to models similar to themselves.

TABLE 20

GROUP MEANS, SD's, N's AND t RATIOS OF FREQUENCY AND VARIETY OF INFORMATION-SEEKING BEHAVIOR COMPARING DIAGONAL AND OFF-DIAGONAL CELLS

ATHLETIC MODEL

	Diagonal			Off-Diagonal			
	N	$\overline{M}$	SD	N	$\overline{M}$	SD	t
Sunnyvale							
Frequency	12	4.92	3.20	24	6.33	2.94	1.28
Variety	12	4.42	2.92	24	5.54	2.31	1.23

Question 3. Question three states "Will a specific type of model, e.g., athletic, be more effective in promoting imitative behavior among high school male students than academic or social type models?" Tables 12 and 16 present the results for Fremont High School in which all three model types were used. From these analyses we would conclude that the academic, athletic, and social model types were equally effective in promoting both frequency and variety of information-seeking behavior. Table 21 presents the mean frequency and variety of information-seeking behaviors by model type and schools.

TABLE 21

NUMBER OF CASES AND MEANS OF FREQUENCY AND VARIETY OF INFORMATION-SEEKING BEHAVIOR BY MODEL TYPE

Model Type	School	N	$\bar{M}$ Freq.	$\bar{M}$ Variety
Academic	Cupertino	36	3.94	3.41
	Fremont	27	5.59	4.74
	Combined	63	4.65	3.97
Athletic	Sunnyvale	36	5.96	5.16
	Fremont	27	5.85	4.89
	Combined	63	5.86	5.04
Social	Homestead	36	4.61	3.58
	Fremont	27	5.59	4.92
	Combined	63	5.03	4.15

Question 4. The fourth question to be answered was: "Will individuals who aspire to greater success in a particular area respond differently to models representing varying degrees of success than subjects who are satisfied with their present levels of success?" Therefore, the students' present and desired success vignette selections were used to determine which subjects aspired to high success and which ones were satisfied with their present level. Since it was impossible for the subjects who represented themselves initially as "high" in success to select a higher vignette for their desired success level, only subjects who represented themselves as low or medium were included in this analysis. The medium and low success subjects from all four schools were then pooled and divided into six main sub-groups according to their responses to the vignettes. Of these, four groups--"low-but-aspiring," "low-but-satisfied," "medium-but-aspiring," and

"medium-but-satisfied" were used. Table 22 presents the sub-group classifications used and those categories not included in the analysis.

TABLE 22

NAMES OF SUB-GROUP CATEGORIES BY PRESENT AND DESIRED LEVELS OF SUCCESS

Present Success Vignette	Desired Success Vignette		
	Low	Medium	High
Low	"Low-but-Satisfied"	*	"Low-but-Aspiring"
Medium	*	"Medium-but-Satisfied"	"Medium-but-Aspiring"

* Category not used in analysis

The "low-but-aspiring" group was made up of those subjects who had selected vignettes of low success to represent their present success level and vignettes of high success to designate their desired success level. The "low-but-satisfied" group was made up of those subjects who had chosen low success vignettes to represent both their present and desired success levels.

The "medium-but-aspiring" group was made up of those subjects who had selected vignettes of medium success to designate their present success level and vignettes of high success to designate their desired success level. The "medium-but-satisfied" individuals were those who had chosen medium success vignettes to represent both their present and desired success levels. Table 23 reproduces the vignette selections for the athletic model. The academic and social type vignette selections were identical in form.

TABLE 23

ATHLETIC VIGNETTE RESPONSE ALTERNATIVES FOR ASPIRING AND SATISFIED SUBJECTS*

Present Success Level	Desired Success Level	
1	1'	Ron doesn't turn out for any of the school teams. He does, however, attend some of the high school's athletic events but is more interested in other activities. Ron's athletic ability is probably below average but he does enjoy some sports.
2	2'	Ken does pretty well in most sports he plays but isn't what one would call a star athlete. He turned out for football again this fall and if he continues to improve, he has a good chance to letter next year. His coaches feel that Ken is a good average athlete who turns out because he enjoys sports. In thinking about the future, Ken would like to attend a college that has an active intramural program or if he decides to find a job instead, he would like to play on one of the town teams in the recreational league.
3	3'	Tom is a good athlete. He participates in most of the school's organized sports and has lettered in one. He will probably gain a second letter before he graduates. He has always liked sports and considers them one of the main reasons for his liking high school. In thinking about the future, Tom would like to do well enough in sports to earn a scholarship at some college.

* 1 - 1' = "Low-but-Satisfied"
1 - 3' = "Low-but-Aspiring"
2 - 2' = "Medium-but-Satisfied"
2 - 3' = "Medium-but-Aspiring"

Tables 24 and 25 present the results for each of the four groups according to the success level of the model to which they were exposed. The following differences were found: (1) Subjects classified "low-but-aspiring" engaged in a significantly greater number and variety of information-seeking behaviors when exposed to models of medium or low success than when exposed to models of high success; (2) Subjects classified as "low-but-satisfied" engaged in a significantly greater frequency and variety of information-seeking activities when exposed to models of high or medium success than when exposed to models of low success; (3) Differences in the model's success level did not produce significantly different effects on either the "medium-but-aspiring" or the "medium-but-satisfied" groups. However, the trend in the "medium-but-aspiring" group is for models of high or medium success to be more effective in promoting the criterion behavior than models of low success. For the "medium-but-satisfied" subjects, models of low or medium success were somewhat more effective in promoting information-seeking behavior than models of high success.

These results seem to indicate that "low-but-aspiring" individuals respond differently to models representing varying degrees of success than do "low-but-satisfied" subjects. Thus, low or medium models may be more effective than high models for "low-but-aspiring" subjects; high or medium models may be more effective than low models for "low-but-satisfied" individuals. These results are based on small Ns and the obtained differences were not hypothesized in advance. Future research will need to cross validate these findings before much confidence can be placed in them.

TABLE 24

NUMBER OF CASES, MEANS, SD's AND t RATIOS OF FREQUENCY OF INFORMATION-SEEKING BEHAVIORS FOR ASPIRING AND SATISFIED GROUPS BY MODEL

Group	Model Success	N	$\overline{M}$	SD	Comparison	t
Low-but-Aspiring	1. High	5	2.00	.63	1-2	2.88***
	2. Medium	8	5.00	2.87	2-3	.55
	3. Low	5	6.00	3.41	1-3	2.59**
Low-but-Satisfied	1. High	6	6.67	1.79	1-2	.17
	2. Medium	5	6.40	3.14	2-3	2.06*
	3. Low	7	2.86	2.63	1-3	3.07***
Medium-but-Aspiring	1. High	12	5.17	2.93	1-2	.41
	2. Medium	15	5.60	2.53	2-3	1.26
	3. Low	14	4.50	2.19	1-3	.36
Medium-but-Satisfied	1. High	9	4.67	2.83	1-2	.72
	2. Medium	5	5.80	2.78	2-3	.48
	3. Low	7	6.57	2.77	1-3	1.36

* = $p < .10$, two-tailed
** = $p < .05$, two-tailed
*** = $p < .02$, two-tailed

TABLE 25

NUMBER OF CASES, MEANS, SD's AND t RATIOS OF VARIETY OF INFORMATION-SEEKING BEHAVIORS FOR ASPIRING AND SATISFIED GROUPS BY MODEL

Group	Model Success	N	$\overline{M}$	SD	Comparison	t
Low-but-Aspiring	1. High	5	2.00	.63	1-2	2.84**
	2. Medium	8	4.75	2.63	2-3	.70
	3. Low	5	6.00	3.41	1-3	2.59*
Low-but-Satisfied	1. High	6	5.67	1.10	1-2	.06
	2. Medium	5	5.60	2.42	2-3	2.91**
	3. Low	7	2.17	1.35	1-3	5.19***
Medium-but-Aspiring	1. High	12	4.33	1.85	1-2	.39
	2. Medium	15	4.60	1.70	2-3	1.41
	3. Low	14	3.71	1.70	1-3	.89
Medium-but-Satisfied	1. High	9	3.78	2.09	1-2	1.05
	2. Medium	5	5.00	2.09	2-3	.35
	3. Low	7	5.42	2.06	1-3	1.58

* = $p < .05$, two tailed
** = $p < .02$, two tailed
*** = $p < .001$, two tailed

Question 5. For comparative purposes with earlier studies using model-reinforcement techniques for promoting information-seeking behavior, the following hypothesis was tested:

> Students exposed to model-reinforcement counseling will engage in a significantly greater number of information-seeking behaviors than will similar students in an inactive control group.

Tables 26 and 27 present the t ratios for the frequency and variety of information-seeking behaviors by school and model success levels compared with controls at each school. Inspection of these tables indicates: (1) Subjects receiving model-reinforcement counseling at Fremont High School engaged in a significantly greater number and variety of information-seeking activities than controls receiving no active treatment procedures; (2) Control subjects at Sunnyvale engaged in a significantly greater number and variety of information-seeking activities than subjects receiving model-reinforcement counseling; and (3) No significant differences were found between the means of subjects exposed to model-reinforcement counseling and students receiving no active treatment procedures for Cupertino and Homestead High Schools.

Only six subjects were used as controls for each of the three schools in which negative or non-significant results were obtained. These small Ns could by chance produce spurious results. It is significant to note that all three model-type treatments were more effective than control procedures for Fremont High School where a larger control group (N=18) was available.

It should be noted also that generalizations of these findings to the earlier studies cannot be made. This investigation used different model tapes on which three of these tapes the model was presented as being unsuccessful on that dimension. In addition, the high schools used in this study were preparing for a county-wide occupational fair during the period in which the study was conducted. Although the investigation was completed before the fair took place, the advance preparation, (i.e., bulletins, closed circuit television, etc.) employed during the second half of the study could have affected

TABLE 26

GROUP MEANS, SD's, N's AND t RATIOS FOR FREQUENCY OF INFORMATION-SEEKING BEHAVIORS COMPARED WITH CONTROLS AT THAT SCHOOL

	N	$\bar{M}$	SD		N	$\bar{M}$	SD	t
Sunnyvale								
Total	36	5.83	3.10	Control	6	7.83	1.95	-2.10*
High Model	12	6.33	2.62					-1.36
Med. Model	12	6.75	2.72					- .96
Low Model	12	4.50	3.40					-2.64**
Homestead								
Total	36	4.61	3.00	Control	6	6.33	4.42	- .86
High Model	12	3.75	2.95					-1.30
Med. Model	12	6.25	3.42					- .04
Low Model	12	3.83	1.72					-1.34
Cupertino								
Total	36	3.94	2.82	Control	6	3.0	1.62	1.16
High Model	12	3.67	2.62					.67
Med. Model	12	4.75	3.47					1.47
Low Model	12	3.42	1.98					.48
Fremont (Athletic)								
Total	27	5.85	2.52	Control	18	3.89	2.58	2.51**
High Model	9	6.22	2.44					2.30*
Med. Model	9	5.55	2.06					1.82*
Low Model	9	5.78	2.94					1.64
Fremont (Social)								
Total	27	5.67	2.61	Control	18	3.89	2.58	2.12
High	9	5.34	3.27					1.17
Med. Model	9	5.89	2.33					2.00*
Low Model	9	5.78	2.06					2.07*
Fremont (Academic)								
Total	27	5.59	3.00	Control	18	3.89	2.58	2.02*
High Model	9	6.11	3.24					1.80*
Med. Model	9	6.44	2.74					2.34*
Low Model	9	4.22	2.35					.33
Fremont								
Total	81	5.67	2.72	Control	18	3.89	2.58	2.62**

* = $p < .05$, one tail
** = $p < .01$, one tail

TABLE 27

GROUP MEANS, SD's, N's AND t RATIOS FOR VARIETY OF INFORMATION-SEEKING BEHAVIORS BY SCHOOL AND MODEL SUCCESS LEVEL COMPARED WITH CONTROLS AT THAT SCHOOL

	N	$\overline{M}$	SD		N	$\overline{M}$	SD	t
Sunnyvale								
Total	36	5.17	2.59	Control	6	7.17	1.77	-2.38**
High Model	12	5.50	2.18					-1.76
Med. Model	12	6.25	2.11					- .98
Low Model	12	3.75	2.55					-3.35***
Homestead								
Total	36	3.69	1.99	Control	6	5.17	3.23	-1.08
High Model	12	3.58	2.44					-1.07
Med. Model	12	4.33	1.93					- .82
Low Model	12	3.17	1.21					-1.47
Cupertino								
Total	36	3.42	2.15	Control	6	2.83	1.57	.81
High Model	12	3.00	1.68					.21
Med. Model	12	4.08	2.63					1.26
Low Model	12	3.17	1.86					.41
Fremont (Athletic)								
Total	27	4.89	2.00	Control	18	3.50	2.14	2.21*
High Model	9	5.00	1.05					2.46*
Med. Model	9	4.78	1.47					1.83*
Low Model	9	4.89	2.77					1.34
Fremont (Social)								
Total	27	4.81	2.28	Control	18	3.50	2.14	1.98*
High Model	9	4.00	2.67					.50
Med. Model	9	4.78	1.87					1.60
Low Model	9	5.67	1.87					2.71**
Fremont (Academic)								
Total	27	4.74	2.25	Control	18	3.50	2.14	1.88*
High Model	9	5.56	2.40					2.19*
Med. Model	9	5.22	1.99					2.07*
Low Model	9	3.44	1.77					- .07
Fremont								
Total	81	4.81	2.19	Control	18	3.50	2.14	2.38*

* = $p < .05$, one tail
** = $p < .01$, one tail
*** = $p < .001$, one tail

significantly the information-seeking behavior of the control group. Some support for this premise can be seen by inspecting the control means of two earlier studies. The mean frequency and variety of the total pooled control group for this study was 4.80 and 4.28 respectively. For a similar three-week period, the controls in the Krumboltz, Varenhorst, and Thoresen study engaged in 3.19 frequency and 2.96 variety of information-seeking behaviors. The control means for the Krumboltz and Thoresen study for a three-week experimental period were 1.40 and 1.35 for frequency and variety of information-seeking behaviors. These studies also used two interviews in which specific reinforcement counseling methods were utilized in addition to the social model counseling procedures. This study used only one interview and the main treatment procedure was playing the 15 minute social model tape.

Additional Analysis of the Data

For two schools, Cupertino and Sunnyvale, significant counselor effects were obtained (vid. Tables 10, 14, 9, 13). The F ratio for Sunnyvale reached the .001 level and .05 for Cupertino. Because Sunnyvale was the only setting in which a male and female counselor were used in the study, the frequency and variety of information-seeking behaviors of those subjects counseled by the male counselor were compared with those counseled by the female counselor. The results of these computations are presented in Table 28.

Inspection of Table 28 indicates subjects counseled by the male counselor engaged in a significantly greater frequency and variety of information-seeking behaviors than did subjects counseled by the female counselor. This finding is consistent with the results reported by Thoresen, Krumboltz, and Varenhorst (1965). In this study the variable of being counseled by a male counselor was found to exert a significant effect on both male and female information-seeking behavior.

TABLE 28

GROUP MEANS, SD's, N's AND t RATIOS FOR SEX OF COUNSELOR

	N	M	SD	t
Frequency				
Male Counselor	18	7.44	2.35	3.90**
Female Counselor	18	4.28	2.53	
Variety				
Male Counselor	18	6.22	2.37	2.88*
Female Counselor	18	3.94	2.36	

* = $p < .01$, two-tail
** = $p < .001$, two-tail

Tables 9 and 13 indicate significant F ratios were also obtained between subject academic success levels for Cupertino. To determine the significance of this effect, t ratios were computed for the high, medium, and low subject success levels for both criterion behaviors. Table 29 provides the results of this analysis.

On the basis of this analysis, subjects perceiving themselves moderately or highly successful academically engaged in significantly greater frequency and variety of information-seeking behaviors than subjects perceiving themselves unsuccessful in this area. The differences between the high and medium success groups did not reach statistical significance and are not reported.

TABLE 29

GROUP MEANS, N's AND t RATIOS OF FREQUENCY AND VARIETY OF INFORMATION-SEEKING BEHAVIOR BY SUBJECT SUCCESS LEVELS

CUPERTINO-ACADEMIC

	High Success			Low Success			
	N	$\overline{M}$	SD	N	$\overline{M}$	SD	t
Frequency	12	5.25	3.39	12	2.33	1.69	2.69*
Variety	12	4.42	2.57	12	2.25	1.59	4.49*
	Medium Success			Low Success			
	N	$\overline{M}$	SD	N	$\overline{M}$	SD	t
Frequency	12	4.25	2.24	12	2.33	1.69	2.37*
Variety	12	3.58	1.55	12	2.25	1.59	2.89*

* = $p < .05$, two-tail

CHAPTER IV

SUMMARY AND CONCLUSIONS

Summary of the Study

This investigation was designed to conduct an experimental test of counseling procedures derived from research in social learning theory that can be used by counselors to assist students in learning how to make plans and decisions more effectively. Specifically, this study tested the relative effect of student social models, characterized by varying degrees of athletic, social and academic success, on the information-seeking behavior of male high school students.

Three hypotheses were tested. It was hypothesized that the success level of the social model would significantly effect the frequency and variety of the subjects' information-seeking behavior. It was further hypothesized that subjects exposed to social models similar in success level to themselves would demonstrate a greater frequency and variety of the criterion behavior than subjects exposed to dissimilar social models. The third hypothesis stated that subjects exposed to model-reinforcement counseling would engage in a significantly greater number and variety of information-seeking behaviors than would similar students in an inactive control group.

The study also sought answers to two questions for which hypotheses were not formulated. The first question asked whether a specific model type, e.g., athletic, would be more effective in promoting the criterion behavior than social or academic models. The investigation also attempted to determine whether a difference in effect would be found for the same model between subjects who rate themselves similar in success in a particular area, but differ in the importance of being successful.

The study was conducted in four high schools in the vicinity of Stanford University. The subjects consisted of male eleventh grade students who indicated an interest in receiving special counseling regarding their post high school plans. Randomization procedures were used for assigning all subjects to treatment and control groups.

The counselors taking part in the investigation were graduate students enrolled in the counseling and guidance program at Stanford University. Specific training procedures were employed with the experimental counselors before the implementation of the study.

The treatment procedures included the presentation of an audio tape in which the peer social model verbally demonstrated those behaviors the study sought to promote. The theoretical basis for these procedures, as well as for the hypotheses raised, are derived from the following principles developed from research in social learning:

1) Behavior can be modified by exposure to significant social models.

2) Reinforcing the behavior of the model promotes the performance of that behavior by the observer.

3) Symbolic as well as live models are effective in promoting certain behaviors among observers.

4) The extent to which an observer imitates the behavior of the model is due in part to the social power or prestige of the model.

5) The extent to which an observer imitates the behavior of the model is due in part to the similarity existing between the model's characteristics and those of the observer.

The design called for twenty-seven active treatment groups. For each model type, academic, social or athletic, three levels of model success and three levels of subject success were used as independent variables. This made nine treatment groups necessary for each dimension. Replication of treatments by different counselors within schools and between schools was incorporated in the design.

Evaluation of the treatment procedures was made by determining the frequency and variety of information-seeking behaviors, e.g., writing to a college for entrance information, the subjects engaged in during a three-week period following the initial interview. Independent investigators, using structured evaluation forms, were employed to interview every experimental and control subject and to assess the number and variety of the criterion behaviors carried out during the experimental period.

To determine the accuracy of the subjects' reports of information-seeking behaviors, protocols of fifteen subjects were randomly chosen for confirmation of responses. A member of the evaluation team conducted the follow-up procedures. Sixty-three student information-seeking activities were confirmed, none was invalidated, and twenty-five responses were inpossible to confirm.

Summary and Discussion of Results

The results of the study indicate the treatment procedures generally did not produce statistically significant differences among the various treatment groups to answer or support the questions and hypotheses raised. Summary statements of the findings follow:

1) The degree of academic or social success ascribed to the peer social model did not significantly affect the extent to which the subjects increased the frequency and variety of information-seeking behaviors.

2) The degree of athletic success ascribed the peer model did affect the imitative behavior of the subjects at one high school. Subjects exposed to peer models of high or medium athletic success carried out more and a greater variety of information-seeking behaviors than subjects exposed to social models of low athletic success. However, similar findings using the same athletic models were not obtained at another high school.

3) Exposure to social models similar in success level to themselves did not significantly affect the extent to which subjects increased their frequency and variety of information-seeking activities.

4) The kind of success (academic, social or athletic) ascribed the model did not significantly affect the extent to which subjects increased their frequency and variety of information-seeking activities.

5) Low self-concept subjects aspiring to high success sought more information after exposure to low or medium models than to high models. Low self-concept subjects satisfied with their success level sought more information after exposure to high or medium models than to low models.

6) The social model treatment produced more information-seeking than the control procedure in the school where larger experimental and control groups could be established. In the schools where only six subjects could be assigned as controls, differences between

experimental and control groups were nonsignificant or significant in a nonhypothesized direction..

7) Though not hypothesized, two significant findings of importance to the study were found:

a) Subjects counseled by a male counselor engaged in a significantly greater number and variety of information-seeking behaviors than subjects counseled by a female counselor in the same school setting.

b) The results indicate high and medium academic successful subjects carried out more and a greater variety of information-seeking activities than did subjects who saw themselves as low academically.

There are four possible explanations for the small effects of the treatment variables.

1) The small N employed per treatment group may have prevented the detection of any difference in effect between the treatment variables. When statistical tests are computed between groups of small numbers, chance factors may produce results regardless of the power of the treatment variable.

2) The gross criterion measures used as dependent variables in this study may have been affected by many things. It should be acknowledged that the four schools used in this investigation were preparing for a county-wide occupational fair during the time the study took place. At three schools, (Sunnyvale, Cupertino and Homestead) closed circuit television programs were presented by the school district's guidance departments. These programs discussed the purposes

of the fair and the various ways in which students might prepare themselves before attending the event. At Fremont High School, bi-weekly occupational programs were started during the third week of the study. These programs were held after school hours and included talks by various community leaders pertaining to their areas of work. It is possible, of course, that the television presentations and vocational talks randomly affected the experimental and control subjects in the same manner. However, the differences between experimental and control subjects may have been attenuated by these procedures. The fact that the control subjects had indicated an interest in the special counseling suggests that they were motivated to obtain information relevant to their future educational and vocational plans. Consequently, these programs may have caused more information-seeking activities than normal for the control group. On the other hand, the experimental subjects may have been satiated with educational and vocational information and therefore unaffected by the additional programs.

3) The short treatment period may also have reduced the likelihood of obtaining differentiated effects from the experimental procedures. Since one school was using flexible scheduling of 30 minutes per period, the administrators at that school requested that the experimental counseling be completed during a 30-minute block of time. Consequently, the experimental procedures in the other three schools were held to this time period. The counselors reported they were sometimes forced to hurry in order to complete the experimental interview. Some counselors felt, too, that the students wanted to discuss the model

tapes further, but the short time allowed did not permit this.

4) The single interview design used in this study may not have allowed sufficient exposure to the social models to produce differential effects in the criterion measures. Previous counseling studies utilizing social model procedures have used two experimental interviews. In addition, the short presentation of social models alone may not have been enough treatment to cause the male subjects to engage in information-seeking activities. The treatment procedures used in earlier studies involved further reinforcement counseling following the use of a model.

Implications for Further Research

The present investigation suggests several implications for further research. These implications can be drawn from both the negative and positive findings of the study.

The trends in the data indicate that some critical thought needs to be given to the similarity hypothesis as a theoretical premise for future research using social model counseling procedures. The present investigation suggests that exposing subjects to models similar to themselves does not significantly affect the degree to which they imitate the behavior of the model. This finding confirms the results reported by Kagan (1965). As a matter of fact, the means of the present study were in the opposite direction to that suggested by the similarity hypothesis. Since little research has been done on the effect of a similarity between the subject and model, further exploration may be needed before any conclusions regarding the efficacy of this hypothesis can be made. Similarity between the model and observer in terms of age, socio-economic status, grade level and occupational preference might be explored to test further the applicability of this hypothesis to counseling research.

It is also possible for a subject to be similar in some respects to a model but different in others. For example, an individual may be able to identify with a model similar in sex, age and race but perceive himself completely unlike the model in terms of prestige or competence. Further experimental exploration is needed to determine which combinations of shared characteristics between the subject and model significantly affect the degree of observer imitative behavior.

The social power hypothesis, however, may prove a more fruitful theory for future counseling research using modeling procedures. Although variations of model success level did not differentially affect the criterion measures for three schools, significant differences were found for one school. In addition, inspection of the trends in the means (Tables 7 and 8) shows the following relationships: (1) The mean frequency of information-seeking behaviors for high success subjects exposed to high success models were in all instances higher than the means of high success subjects exposed to low success models; and (2) The mean frequency of information-seeking behaviors for all subjects exposed to high academic or athletic success models was higher than the mean of those exposed to low academic or athletic success models.

Thus, these trends strongly suggest that further exploration regarding the success level of the social model may be warranted. If the degree of model success is used as the independent variable in subsequent studies, it seems likely that greater care will have to be taken to make sure that the subjects are cognizant of the model's ascribed success level. A film presented model may therefore be more effective as a treatment procedure for testing this hypothesis than the audio presented models used in this study.

Further, the fact that the experimental students in some schools did not engage in more information-seeking activity than the controls does not mean they failed to learn how to gather information relevant to good decision-making. As Bandura (1965a) points out, exposure to social models may be sufficient for the acquisition of a behavior, but reinforcement procedures may be needed to motivate the actual performance of that behavior. Future counseling research utilizing more sensitive criterion measures is needed to determine whether differential effects in learning the model's behavior occur as a result of variation in the model's success level or degree of similarity to the observer.

The results of the present study also suggest that further research is needed to determine more fully the ways in which the aspiration level of an individual affects the extent of his emulating behavior. The fact that "low-but-aspiring" individuals engaged in greater imitative behavior after exposure to low or medium models than after exposure to high models has strong implications for further research. It may be that the social distance between the aspiring subjects and the high models was too great, and in effect, the models became aversive stimuli to these subjects. Although such individuals may have a strong desire to be intellectually, socially, or athletically successful, they may, because they are already painfully aware of their low level of success, resent peer models who exhibit these qualities in an exceptionally high degree. Further research in this area might involve the following problems.

1) A greater range of success levels could be used to determine what constitutes an "extreme" difference between the subject and model; i.e., at what point does the model start to become an aversive stimulus for low-but-aspiring individuals. It may be, of course, that the success of the model becomes an aversive stimulus not at a point of "extreme" difference, but at a point of "crucial" difference. For example, a successful peer athlete may represent a highly negative model to the low-but-aspiring athlete while a professional sports figure may represent a highly positive model.

2) Subsequent studies could vary the age level of the model to determine whether low-but-aspiring subjects respond differently to high models not presented as peers. In addition, college students could be presented as models presently highly successful but formerly mediocre, moderately or highly successful during high school.

3) Finally, further study is needed to determine whether the degree of desire to become more successful affects the extent to which the subject imitates the behavior of the model. The present study did not differentiate between subjects who strongly desire success and those who passively daydream of being highly successful in a particular area.

4) Various changes in the present study might also be explored to determine effective models for counseling clients of varying competencies. The modeling tapes used in this study involved a student and counselor discussing ways in which the student might gain relevant information concerning his future educational and vocational decisions. At present there is no evidence, other than intuition, that the counselor is needed in the modeling procedures. The effect of the peer model on the attending behavior of the observer may be lessened by the words or actions of the counselor. Future studies might investigate utilizing model tapes of two students, parent-son dyads, or groups of students to determine the modeling procedures most effective with high school students.

5) The modeling history of the subject may also be an important factor to consider. Future investigations might explore further what chacteristics of the model are most important, with what types of students, for what types of problems. Such a study might involve: (a) Further and different types of personality assessments of the subjects, (b) Asking the subjects beforehand to describe the individual whose advice would influence them most for a given type of problem, and (c) Creating models having specific characteristics which the subjects, themselves, feel are important in individuals who influence their decisions.

Conclusion

The fact that modeling procedures are effective means of changing behavior has been shown by a large number of research studies. Few, if

any, studies have investigated the salient characteristics of peer social models as a cause of significant changes in student behaviors. The present study was an attempt to determine whether the model type, model success, and degree of similarity between the subject and model would affect the extent to which the subject would imitate the behavior of the model.

The major findings were as follows:

1) Subjects exposed to models of high or medium athletic success carried out more and a greater variety of information-seeking behavior at one school than subjects exposed to models of low athletic success.

2) Exposure to models similar in success level to themselves did not significantly affect the extent to which subjects increased their information-seeking behavior.

3) The kinds of success (academic, social or athletic) ascribed the model did not significantly affect the extent of the criterion behavior.

4) Low self-concept subjects aspiring to high success sought more information after exposure to low or medium models than to high models. Low self-concept subjects satisfied with their success level sought more information after exposure to high or medium models than to low models.

5) The social model treatment produced more information-seeking than the control procedure in the school where larger experimental and control groups could be established. In the schools where only

six subjects could be assigned as controls, differences between experimental and control groups were nonsignificant or significant in a nonhypothesized direction.

6) Subjects counseled by a male counselor engaged in a significantly greater number and variety of information-seeking behavior than subjects counseled by a female counselor in the same school setting.

7) The more academically successful subjects carried out more and a greater variety of information-seeking than subjects who saw themselves as low academically.

Additional research utilizing different criterion measures, designs, and media of model presentation is necessary before any final conclusions can be drawn.

BIBLIOGRAPHY

Asch, S. E. The doctrine of suggestion, prestige, and imitation in social psychology. Psychol. Rev., 1948, 55, 250-277.

Bandura, A. Behavioral modification through modeling procedures. In Krasner and P. Ullmann (Eds.) Research in Behavior Modification. San Francisco: Holt, Rinehart and Winston, 1965a.

Bandura, A. Influence of model's reinforcement contingencies on the acquisition of imitative responses. J. pers. soc. Psychol. (in press).

Bandura, A. Social learning through imitation. In Marshall Jones (Ed.) Nebraska Symposium on Motivation, 1962. Lincoln: University of Nebraska Press, 1962.

Bandura, A. Vicarious processes: A case of no-trial learning. In L. Berkowitz (Ed.) Advances in Experimental Social Psychology, Vol. II. New York: Academic Press, 1965b.

Bandura, A. & Huston, A. C. Identification as a process of incidental learning. J. abnorm. soc. Psychol., 1961, 63, 311-318.

Bandura, A. & McDonald, F. J. The influence of social reinforcement and the behavior of models in shaping children's moral judgments. J. abnorm. soc. Psychol., 1963, 67, 274-281.

Bandura, A. & Mischel W. Modification of self-imposed delay of reward through exposure to live and symbolic models. J. pers. soc. Psychol. (in press).

Bandura, A., Ross, D., & Ross, S. A. Transmission of aggression through imitation of aggressive models. J. abnorm. soc. Psychol., 1961, 63, 575-582.

Bandura, A., Ross, D., & Ross, S. A., Imitation of film-mediated aggressive models. J. abnorm. soc. Psychol., 1963, 66, 3-11. (a)

Bandura, A., Ross, D., & Ross, S. A. A comparative test of the status envy, social power, and secondary reinforcement theories of identificatory learning. J. abnorm. soc. Psychol., 1963, 67, 527-534. (b)

Bandura, A., Ross, D., & Ross, S. A. Vicarious reinforcement and imitative learning. J. abnorm. soc. Psychol., 1963, 67, 601-607. (c)

Bandura, A. & Walters, R. Social Imitation and Personality Development. New York: Holt, Rinehart, and Winston, 1963.

Bateson, G., The Naven, Stanford: Stanford University Press, 1936.

Bijou, S. W. Implications of behavioral science for counseling and guidance. In Krumboltz, J. D. (Ed.) Revolution in Counseling: Implications of Behavioral Science. Boston: Houghton Mifflin, 1966.

Brown, D. E. Sex-role development in a changing culture. Psychol. Bull., 1958, 55, 232-242.

Brown, D. E. Sex-role preference in young children. Psychol. Monographs, 1956, 70, 17.

Burnstein, E., Stotland, E. & Zander, A. Similarity to a model and self-evaluation. J. abnorm. soc. Psychol., 1961, 62, 257-264.

Campbell, D.,T. & Stanley, J. C. Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.) Handbook of Research on Teaching. Chicago: Rand McNally & Co., 1963, 171-246.

Coleman, J. S. The Adolescent Society. New York: The Free Press of Glencoe, 1961.

deCharms, R. & Rosenbaum, M. E. Status variables and matching behavior. J. Pers., 1961, 28, 492-502.

Fauls, L. B. & Smith, W. D. Sex-role learning of five year olds. J. genet. Psychol. 1956, 89, 105-117.

Festinger, L. A. Theory of social comparison processes. Human Relations, 1954, 7, 117-140.

Friendenberg, E. Z. The Vanishing Adolescent. Boston: Beacon Press, 1960.

Gardner, J. Self Renewal: The Individual and the Innovative Society. New York: Harper and Row, 1964.

Gelatt, H. B. Decision-making: A conceptual frame of reference for counseling. J. of counsel. Psychol., 1962, 9, 240-245.

Gelatt, H. B. The influence of outcome probability data on college choice. Ph.D. dissertation, Stanford University, 1964.

Gelfand, D. M. The influence of self-esteem on rate of conditioning and social matching behavior. Unpublished Ph.D. dissertation, Stanford University, 1961.

Gordon, C. W. The Social System of the High School. Glencoe, Illinois: The Free Press, 1957.

Grinder, R. E. Peer status, academic performance, and motivation for social dating. A paper presented at American Educational Research Association symposium on Youth Culture and the High School. Co-Agents of Socialization. Chicago, February, 1965.

Havighurst, R. J. & Neugarten, B. L. Society and Education. Boston: Allyn and Bacon, Inc., 1962.

Heilburn, A. B. Jr. Parental model attributes, nurturant reinforcement and consistency of behavior in adolescents. Child Dev., 1964, 35, 151-167.

Kagan, J. & Mussen, P. H. Dependency themes on the TAT and group conformity. J. consult. Psychol., 1956, 20, 29-32.

Kagan, J. The concept of identification. Psychol. Rev., 1958, 65, 296-305.

Kagan, J., Pearson, L, & Welsh, L. The modifiability of an impulsive temp. Harvard University, 1965 (mimeo).

Kanareff, V. T. & Lanzetta, J. Effects of success-failure experiences and probability of reinforcement upon the acquisition and extinction of an imitative response. Psychol. Rev., 1960, 67, 373-379.

Katz, M. Decision and values. New York: College Entrance Examination Board, 1963.

Kempthorne, O. The design and analysis of experiments with some reference to education research. In R. O. Collier & S. M. Elam (Ed.), Research Design and Analysis, Bloomington, Indiana: Phi Delta Kappa, 1961.

Krasner, L. & Ullmann, L. F. (Ed.) Research in Behavioral Modification. San Francisco:, Holt, Rinehart, and Winston, 1965.

Krech, D., Crutchfield, R. S. & Ballachey, E. L. Individual in Society. New York: McGraw-Hill, 1962.

Krumboltz, J. D. Behavioral counseling: Rational and research. Personnel guid. J. (in press). (a)

Krumboltz, J. D. Behavioral goals for counseling. Stanford University, 1964b (mimeo).

Krumboltz, J. D. Parable of the good counselor. Personnel guid. J., 1964, 43, 118-126. (c)

Krumboltz, J. D. Promoting adaptive behavior: New answers to familiar questions. In J. D. Krumboltz (Ed.), Revolution in Counseling: Implications of Behavioral Science. Boston: Houghton Mifflin, 1966.

Krumboltz, J. D. & Hosford, R. E. Behavioral counseling in the elementary school. Elementary school guid. and Counseling, 1966, 1, no. 3.

Krumboltz, J. D. & Schroeder, W. W. Promoting career exploration through reinforcement. Personnel guid. J., 1965, 44, 19-26.

Krumboltz, J. D. & Thoresen, C. E. The effect of behavior counseling in group and individual settings on information-seeking behavior. J. counsel. Psychol., 1964, 11, 324-333.

Krumboltz, J. D., Varenhorst, B., & Thoresen, C. E. Non-verbal factors in the effectiveness of models in counseling. (in press).

Lefkowitz, M., Blake, R. R. & Mouton, J. S. Status factors in pedestrian violation of traffic signals. J. abnorm. soc. Psychol., 1955, 51, 704-705.

Lovaas, O. I. Effect of exposure to symbolic aggression on aggressive behavior. Child Dev., 1961, 32, 37-44.

Maccoby, E. E. Role-taking in childhood and its consequences for social learning. Child Dev., 1959, 30, 239-252.

Magoon, T. Innovations in counseling. J. counsel. Psychol., 1964, 11, 324-347.

Mausner, B. Studies in social interaction: III. Effect of variation in one partner's prestige on the interaction of observer pairs. J. appl. Psychol., 1953, 37, 391-393.

Mausner, B. & Bloch, B. L. A study of the additivity of variables affecting social interaction. J. abnorm. soc. Psychol., 1957, 54, 250-256.

McDaniel, H. B., Lallas, J. E., Saum, J. E. & Gilmore, J. L. Readings in Guidance. New York: Henry Holt and Company, 1959.

McNemar, Q. Psychological Statistics. New York: John Wiley and Sons, 1962.

Michael, J. & Meyerson, L. A behavioral approach to counseling and guidance. Harvard educational Review, 1962, 32, No. 4, pp. 382-402.

Miller, N. E. & Dollard, J. Social Learning and Imitation. New Haven: Yale University Press, 1941.

Mowrer, O. H. *Learning Theory and Personality Dynamics*. New York: Ronald, 1950.

Mowrer, O. H. *Learning Theory and the Symbolic Processes.* New York: John Wiley and Sons, 1960.

Mussen, B. H. & Distler L., Masculinity identification and father-son relationships. *J. abnorm. soc. Psychol*., 1959, *59*, 350-356.

Nash, M. Machine age Maya: The industrialization of a Guatemalan community. *Amer. Anthropologist*, 1958, *60*, no. 2, Part 2, (memoir no. 87).

Robinson, F. P. A cubist approach to the art of counseling. *Personnel guid. J*., 1963, *41*, 670-676.

Rosenbaum, M. E. & Tucker, I. F. The competence of the model and the learning of imitation and non-imitation. *J. exper. Psychol*., 1962.

Rosenblith, J. F. Learning by imitation in kindergarten children. *Child Dev*., 1959, *30*, 69-80.

Rothney, J. W. M. *Guidance Practices and Results*. New York: Harper and Brothers, 1959.

Sapolsky, A. Interpersonal relationships and verbal conditioning. *J. abnorm. soc. Psychol*., 1960, *60*, 241-246.

Schroeder, W. W. The effect of reinforcement counseling and model-reinforcement counseling on the information-seeking behavior of high school students. Unpublished Ph.D. dissertation, Stanford University, 1964.

Slocum, W. L. Occupational careers in organizations: A sociological perspective. *Personnel guid. J*., 1965, 858-866.

Super, D. E., Tiedeman, D. V. & Borow, H. Vocational development - symposium. Some unresolved issues in vocational developmental research. *Personnel guid. J*., 1961, *40*, 11-15.

Tannenbaum, A. J. Adolescent attitude toward academic brilliance. Unpublished Ph.D. dissertation, New York University, 1960.

Thoresen, C. E. An experimental comparison of counseling techniques for producing information-seeking behavior. Unpublished Ph.D. dissertation, Stanford University, 1964.

Thoresen, C. E., Krumboltz, J. D. & Varenhorst, B. The sex factor in model-reinforcement counseling. *American Psychologist*, July, 1965.

Truax, C. B. & Carkhuff, R. Theory and research in counseling and guidance. In Krumboltz, J. D. (Ed.) Revolution in Counseling: Implications of Behavioral Science. Boston: Houghton Mifflin, 1966.

Tyler, L. E. Theoretical principles underlying the counseling process. J. counsel. Psychol., 1959, 5, 3-10.

Walker, H. & Lev, J. Statistical Inference. San Francisco: Holt, Rinehart, and Winston, 1953.

Walters, R. H., Llewellyn, T. E. & Acker, C. W. Enhancement of punitive behavior by audio-visual displays. Science, 1962, 136, 872-873.

White, S. H. Learning. In Child Psychology: The sixty-second yearbook of the National Society for the Study of Education, Part 1. Chicago: University of Chicago Press, 1963, 196-234.

Whiting, J. M. W. Becoming a Kwoman. New Haven, Yale Press, 1941.

Williams, R. M. Jr. American Society: A Sociological Interpretation; New York: Alfred Knopf, 1952.

Williamson, E. G. The counselor as technique. Personnel guid. J., 1962, 41, 108-111.

Wrenn, C. G. The Counselor in a Changing World. Washington D. C: American Personnel and Guidance Association, 1962.

APPENDIX A

INVITATION FOR COUNSELING

February, 1966

Junior Male Students:

Many of you are interested in looking into what you plan to do when you finish high school. Those students who are interested may talk with a special counselor from Stanford University about ways of finding out information which might be helpful in making future educational and vocational plans. Because of the large numbers, it may not be possible for all students to see this counselor. Please indicate below whether or not you are interested in talking with this special counselor and then complete the questions. You will be notified as soon as possible of your appointment.

Thank you.

Name ______________________

I am interested in talking with a special counselor ____

I am not interested in talking with a special counselor ____

The following information will provide the counselor with the kinds of things you may be interested in learning relative to your future plans. This information will be used by the Stanford counselor only and will not become a part of your permanent record.

1. What do you consider doing after high school?

   Work (What kind? Be specific.) ______________________

   Military service ______________

   Junior College ____ State College ____ University ____

   Training School ____ I don't know ____ Other ____________

Please complete the second and third pages and then turn this form into your teacher.

Directions:

For each group of student desciptions below, place a one (1) in front of the description that best describes you right now and a two (2) in front of the description that best describes the individual you would like to be. You may pick the same individual for both one and two.

Group I

_____ _____ John likes the social life in high school. He participates in quite a few activities and seldom misses a school dance. He like to date a lot and runs around with a group that often shows up at school functions together.

In thinking about the future, the social life of any college or job would probably be pretty important to John.

* * *

_____ _____ Bob doesn't participate much in school activities, and neither do his friends. Since entering high school three years ago, he hasn't attended three school dances -- probably because he doesn't date very often. Other things are apparently more important to Bob than school social life.

* * *

_____ _____ Don enjoys quite a bit of the social life in high school but isn't what you'd call "gung ho" about it. In fact you might say he can take it or leave it. Since entering high school three years ago, Don has attended about half of the school functions. He dates occasionally and usually runs around with two or three guys who enjoy doing the same types of things during and after school.

In thinking about the future, the social life of any college or job isn't particularly important to Don.

Group II

_____ _____ Since his elementary school days, Jeff has done quite well in school. He has studied hard and has usually been on the honor roll during the three years he has been in high school. Jeff has taken mostly college prep courses such as math, science, and foreign language. He realizes he must have a good education to be successful in any career.

His grades indicate he should be able to be admitted to most colleges. If he can maintain his grades, he has a good chance of getting a scholarship to some college.

Group II (Cont.)

_____ _____ Frank is a junior taking sophomore English for the second time. He never seems to have time for his school work. Besides, he never really understands exactly what the teacher wants him to do. He has always had difficulty with school work and so has devoted his time to other activities. In thinking about the future, Frank wants to go into some type of work that does not require a lot of book work.

* * *

_____ _____ Don does pretty well in most of his high school subjects but isn't what you would call a "brain." He has maintained about a 2.5 grade point average for his three years in high school. Though he hasn't taken a complete college prep load each semester, he will have enough solids completed to satisfy the requirements for a lot of colleges should he desire to continue his education. Don participates in class discussions when called upon and usually completes the homework assignments.

Group III

_____ _____ Ken does pretty well in most sports he plays but isn't what one would call a star athlete. He turned out for football again this fall and if he continues to improve he has a good chance to letter next year. His coaches feel Ken is a good average athlete who turns out because he enjoys sports. In thinking about the future, Ken would like to attend a college that has an active intramural program or if he decides to find a job instead, he would like to play on one of the town teams in the recreational league.

* * *

_____ _____ Ron doesn't turn out for any of the school teams. He does, however, attend some of the high school's athletic events but is more interested in other activities. Ron's athletic ability is probably below average but he does enjoy some sports.

* * *

_____ _____ Tom is a good athlete. He participates in most of the school's organized sports and has lettered in one. He will probably gain a second letter before he graduates. He has always liked sports and considers them one of the main reasons for his liking high school. In thinking about the future, Tom would like to do well enough in sports to earn a scholarship at some college.

APPENDIX B

TYPESCRIPT OF HIGH SOCIAL MODEL INTERVIEW*

You are about to hear an interview between myself and a former junior boy named Chris. Chris made some excellent decisions while he was in high school which enabled him to not only be successful in his further schooling but in his chosen career. Although you probably will not have the same interests and concerns that Chris had when he was a Junior, the interview will provide concrete suggestions on how you can find out information which will be helpful to you in making your future educational and vocational decisions.

At the time of the interview Chris was a Junior in a large high school in the vicinity of Stanford University.

He was very interested in school activities and belonged to several of the school's social clubs. Chris seemed to get along well with other students and was thought to be quite popular with both boys and girls as well as with his teachers. During his junior year, he was an officer in a top social club at our school, on the sports staff of the school newspaper, and was voted one of the top 25 most popular junior boys in the Junior Class.

C: Hi, Chris, come on in.

S: Hi, Mr. Davis.

C: How are you?

S: Just great.

C: Have a seat.

S: Thank you.

C: Ah--Chris do you mind if we tape record our interview today? I-ah usually like to listen to my interviews later on and sometimes I get some additional ideas which we can go over if a second interview is needed.

S: No, that's all right

C: How are your classes going this semester?

* Similar model scripts were used for the other eight model types. The information-seeking suggestions by Chris were held constant for all tapes while Chris was presented as having achieved different levels of success.

S: Pretty well----but I won't be sure until report cards come out next week.

C: By the looks of things you're becoming a pretty popular boy around here.

S: How's that?

C: I was looking at the Activities List last week and I - ah - I noticed that your name was sure on a lot of committees.

S: Yeah.

C: I also saw you dancing up a storm at the school dance Friday night and ah---

S: Oh, you got stuck being a chaperone--

C: Yeah, I think you were dancing with Mary Lou ... what's her name...?

S: Revord?

C: Yeah, that's it, is she your girl now?

S: No, she's just one of our gang, I kinda go with several. So far I've always managed to have a date for everything.

C: Activities and dating must be pretty important for you.

S: Yeah, I do fairly well in my studies, but you might say I enjoy school more because of the social life...ah, you might say I just enjoy being around people.

C: I see that you have requested to see me to talk a little about what you are going to do after high school.

S: Yeah, that's right ... ah ... well, one of the guys in the group I run around with and I were talking about what we are going to do after we graduate next year ...

C: Um hum.

S: and - ah - well, I really don't know what I want to do.

C: That's understandable....let's see you're a Junior now aren't you, Chris.

S: Yeah.

C: Well, this is a good time to begin doing some real good thinking about your future. Tell me... what - ah - what are some of your interests... Do you plan on going to college?

S: Like I said, I'm really not sure what I want to do, but I have thought a little about taking up business....

C: Um hum.

S: -- business administration.

C: I see.

S: and--ah--well, my father wants me to go to a four-year college and -- ah -- I was thinking how I could get some information or something.

C: Right, good. What do you know about four-year colleges? What-- have you found out so far?

S: Well, I really haven't looked into anything really--

C: Um hum.

S: If I want to college--

C: Well, are there certain kinds of things that you would like to-ah-- find out about--a college in addition to the activities it offers?

S: Well, I guess I would have to know what was required--how to get in-- and what types of subjects the college has. I don't know the first thing about how to go about finding out things about colleges.

C: I see.

S: And-ah---maybe the cost---of course, then there's the---maybe I could get some kind of scholarship-----

C: Right, we could look into that.

S: And-ah--oh---whether I could stay in once I got in----

C: Yeah--the competition--you mean--in terms of grades, right, that's a good point.

S: Well... well, I'm not too sure I want to go to a four-year college, really. I mean, I might want to go to a junior college--I mean-- I'm not sure what occupation I want to go into. Like, I have been-- thinking about---a-ah, a-ah training programs in a junior college... ah...I know Foothill has one. It's-ah--in electronics.

C: Um hum, yeah.

S: And-ah--you go there for two-year period, and then after your two years, you're--you are put into some industry around--around--here in electronics. And I am interested in electronics. I have taken several courses-- and-ah-- I know they--they have-ah--they have a lot of activities going on up there.

C: Um hum.

S: Yeah. And-ah--I'm sort of--well interested.

C: Um hum.

S: And-ah--so I guess it was about a month ago I went up to Foothill and--

C: You went right up on the Campus?

S: Um hum.

C: Very good.

S: And-ah I met a friend of mine who is a student up there and he--he told me about the-ah-program they had in electronics.

C: Um hum.

S: I--I'm sure---

C: You know I think this personal contact--talking to people who ah--in your case talking to the student right--who's going to school or has gone is a good source of information.

S: Um hum--I think so. But I'm still--again I'm not too sure about what I want to do--. I may want to get a job or take my hitch in the service.

C: Oh.

S: Our neighbor is an ex-colonel in the Army and he's been telling me about-ah, you know, how great the Army is.

C: Um hum.

S: And, you know, that I should go in. That-ah--it's really--that they do have-ah--occupational programs--in there.

C: Training programs?

S: Uh huh--and-ah-he's been telling me about this. And its--it sounds pretty interesting. And of course, it's all free.

C: Um hum.

S: He told me to-ah--if I, you know, wanted more information, I could go down to the recruiting office.

C: Very good. Yeah, there'd be-ah---they'd have a lot of information there about it.

S: Yeah. This would be easy to do because the recruiting office is so close.

C: What-ah--what are some of the specific things you can start doing really to--start moving on this idea of whether or not you are going to work, go to college, or enlist in the service?

S: Ah--gee, I really hadn't thought about it. I suppose---ah-for colleges-ah--maybe the thing to start out with would be-ah--writing for catalogs.

C: Um hum.

S: At the different colleges.

C: Very good.

S: And-ah---well, I've already looked at some catalogs. My older sister's in college right now, and I remember when she wrote off for catalogs. So I could write off for them, and then--I could visit the colleges---

C: Right

S: I know I want--if I did go to college, I'd wanta go to a college in California, and-ah-I could visit some of the California colleges.

C: Um hum.

S: And-ah--well, then I could---I could go down to the-ah recruiting office for the Armed Forces, I suppose. But-ah--well, I'm---I'm really not sure what I want to be or what I want to do. And this is--this is the reason I've come to you--you know---I---

C: Um hum.

S: I'd like to find out where I might get some information, you know, on occupations.

C: You mean about just careers in general?

S: Uh huh.

C: Well, I have one-ah---reference I can give you and suggest that you look at it. It's the Occupational Outlook Handbook.

S: Uh huh.

C: And, we have a copy in the library, and it is a--I think it's put out by the U. S. Department of Labor, and it describes a number of different-ah--thousands, actually, of different jobs. And it tells you about the requirements and the working conditions and the outlook for the future in terms of demand for that position.

S: Uh huh.

C: And there's the Career booklets put out by insurance companies.

S: Could I have a piece of paper?

C: Yes, yes, that's a good idea---

S: O. K. ---- that was the Occupational Outlook Handbook?

C: Occupational Outlook Handbook.

S: O. K. And ah--

C: Insurance company booklets. New York Life has an excellent little book--it's blue---called Careers, that describes almost any career you can think of.

S: New York Life?

C: Yes, it will tell you how much education is necessary for a job--how much you'll make and so forth.

S: That sounds like a good one.

C: Yes, there's-ah-Lovejoy's Guide to College---and there's another one if I can-ah think of it. Fine's Guide to Colleges.

S: Fine's---all right.

C: And there's one on two-year colleges---ah-called-ah--Barrons Guide to Two-Year Colleges, and it has all the--junior colleges---

S: Junior colleges?

C: ----all over the country.

S: Fine. That's-ah---that's a good place to start.

C: Um hum.

S: Looking in these books.

C: Um hum--I think you might-ah--check with the librarian about any suggestions she would have and check the card catalog under occupations.

S: O. K. I noticed that--I was in there last year--not that I haven't been there this year--but-ah--I was in there doing a report for my social studies class.

C: Um hum.

S: And I noticed they did have a lot of books but I didn't stop to look at them--I just noticed---

C: You haven't looked--you haven't read them yet---?

S: Yeah--heh--I know there's a whole lot.

C: Yeah.

S: I could start on that. Go to the librarian--probably this week sometime.

C: Um hum. Good. Oh--I just thought of one you'd really be interested in. It's a new book called Comparative Guide to American Colleges by Birbaum and Lass--or Cass---it provides information on the social life at the college plus other important data.

S: Great, I'll see if I can get that one from the librarian or the downtown library. I guess that's ah---I don't know--probably the only ideas I have--just the colleges--the four-year colleges, the junior colleges and the Armed Forces.....

C: Um hum.

S: ...to start out with. I'm really, you know, not sure I know what I really want to do, but those are my basic ideas.

C: Um hum. Well, you mentioned this business administration---going into a business career or something---

S: Um hum--and I'll just write the colleges---

C: Right.

S: So I guess I could--I could probably start out--ah--maybe this week--and writing for these catalogs--from the colleges.

C: Vary good---

S: And finding out---

C: You know, I just had an idea, too, the-ah---in terms of this electronics program at the junior college, you might want to check at local employment office to find out---

S: Oh--

C: --what the up-to-date picture is in terms of demand for--electronic technicians--

S: Employment office---I never thought about that--

C: I think they're right here in The City--and-ah--they have a lot of up to date information on this and we frequently, I think, overlook them as a source of information.

S: Um hum.

C: That would be-ah---

S: I'll write that down too.

C: Um hum--(pause for writing)

C: Why don't you-ah---you've written down several things-why don't you read off to me what you've listed there in terms of some of the specific things you are going to try to do.

S: Well, you---you listed these books I'm going to try and look into--The *Occupational Outlook Handbook*.

C. Uh huh.

S: The New York Life book, *Careers*.

C. Uh huh.

S: Lovejoy's *Guide to Colleges* and Fines's Guide--

C: Right.

S: And Barrons *Guide to Two-Year Colleges*.

C. Uh huh.

S: And the *Comparative Guide to Colleges* by Birbaum and Cass.

C: That is quite a few.

S: And-ah--the things I was going to do---ah-first of all I would write the--write for the catalogs and for the programs of the different colleges.

C: Um hum, good.

S: And then possibly---visit--visit the colleges if I could.

C: Yeah, I think that's a good-ah--good idea.

S: And-ah--well, if I--you know--like meeting that friend of mine up at Foothill-if I could get some personal contacts, you know, maybe this electronics--

C: Right--you know--ah--right here at school we have a lot of potential contacts in terms of colleges and universities with our teachers--also many of them have worked in other areas besides teaching. They could also tell you about the social life on campus.

S: Hey, that's rights.

C: They have gone to many, many different schools, and also-ah--some of the older brothers and sisters of the students that you may know here at school who are in college or who have just gotten out of college.

S: O. K.

C: Might be good sources of information to look into.

S: O. K. Then then-ah--let's see--I was going to go to the recruiting office.

C: Right

S: And-ah--you--you mentioned the employment office, too.

C: Um hum--they might be a--well, you have a number of things to-ah--oh, there was also this-ah--your next door neighbor--

S: Yeah--the ex-Colonel--

C: The Colonel--you might--he might, you know--have some personal references or names he could give you in terms of the people to look--to--to contact about this.

S: All right.

C: What I was going to say was that you have a number of things here, and why-ah--why don't you plan to see if you can start acting on some of these this week?

S: O. K. I--let's see--well, if I started writing for the colleges tonight, I could do that, and then I could go the employment office and the recruiting office too.

C: Very good.

S: So--I think--if I could probably have a, you know, another interview after awhile--I mean after I gathered all this information---

C: I'd like to talk to you, Chris, about--particularly about what you have been able to find out, because I'm sure some questions will come up in terms of what to do with this information.

S: O. K., fine.

C: Well, why don't we--why don't we plan to get together--say a week from today.

S: Fine

C: And we can talk about what you have been able to find out and what's come up since.

S: O. K. That'll be fine.

C: O. K. I'll look forward to seeing you, Chris.

S: Thanks a lot, Mr. Davis.

C: O. K. Bye.

S: Bye.

The following variations were used as introductions for the other eight model tapes.

MIDDLE SOCIAL MODEL:

At the time of the interview Chris was a junior in a large high school in the vicinity of Stanford University. His record indicates he was fairly active in school activities and belonged to one or two of the school's social clubs. Chris seemed to get along pretty well with other student but he wasn't in what one would call the "in group" on campus. I guess you might say Chris was just an average all-around guy at school. He never stood out but then he wasn't particularly shy in participating in school affairs either.

LOW SOCIAL MODEL:

At the time of the interview Chris was a junior in a large high school in the vicinity of Stanford University. His record indicates Chris didn't participate in school activities nor was he a member of any of the school's social clubs. As I recall I didn't see Chris at any of the school's dances. Though he seemed to get along fine with others, he wasn't a popular boy since he seemed to be more interested in activities outside of school.

HIGH ATHLETIC MODEL:

Chris is a junior. He is very much interested in athletics and has earned 2 block letters. He is well built and well coordinated, and he scored very high on a physical fitness test recently given in gym class. Chris seems to get along well with students and teachers. Last Fall Chris was first string end on the football team. In addition, he was named to second string of the all-city team. Currently, Chris is turning out for basketball and plans to turn out for track in the Spring.

MIDDLE ATHLETIC MODEL:

Chris is a junior. He is interested in athletics and considers himself to be an average athlete. Though he is not what one would call a natural athlete, Chris does work hard to stay physically fit. He has turned out for football and baseball for three years in a row. Last fall he was second string guard on the football team and earned a varsity letter. He hopes to make the first team in the senior year. Usually Chris enjoys the activities of his gym class and manages to perform reasonably well in each of them, although he is never really a stand-out.

LOW ATHLETIC MODEL:

At the time of the interview Chris was a junior in a large high school in the vicinity of Stanford University. His cumulative record shows Chris didn't participate in school sports while he was in high school. As I recall Chris wasn't interested in athletics as many high school students are but he had a lot of interests outside of school.

HIGH ACADEMIC MODEL:

Chris is a junior. He is currently taking a college preparatory course and has been enrolled in a number of the advanced placement classes during the time that he has been enrolled in the school. With a fairly high scholastic average this past fall he was eligible for CSF. On an aptitude test which he took earlier this year, Chris scored in the 70's in both the verbal and the quantitative. Teachers found Chris an asset to have in class because he can be counted on to take a lead in discussions--not by monopolizing--but by posing some thoughtful questions and making good comments.

MIDDLE ACADEMIC SUCCESS MODEL:

At the time of the interview Chris was a junior. He took a number of courses required for college and some electives. His grade point average during his junior year was 2.5 and on a test of general ability he scored in the high average group. Chris was a reliable student in that he regularly prepared his written assignments, but seldom did any work for extra credit. He participated in class discussions when he was called upon and occasionally volunteered a comment. When he completed his studies in the evening, Chris usually found some activity that was not connected with school.

LOW ACADEMIC MODEL:

At the time of the interview Chris was a junior. He took a General Studies Program and his grades for the most part are C's and D's. Because he failed one course required for high school graduation, Chris had to decide whether or not to go to Summer School, or to repeat the course in the senior year. I am not sure what he did but he did graduate. On a general abilities test Chris placed in the low average group. Chris usually prepared his assignments about half the time. Some evenings he watched T. V. or went over to see his girl friend. He seldom participated in class discussions and did not like to be called upon because he thought he had nothing to contribute.

APPENDIX C

POST HIGH SCHOOL PLANS SURVEY (Rev. 1965)

STANFORD UNIVERSITY, STANFORD, CALIFORNIA

My name is ________. I am from Stanford University and I would like your help in gathering some information for a high school study survey which is being conducted. We are visiting several high schools in this area in order to talk with students about their present activities and future plans. I would like to ask you a series of questions about your activities and plans.

1. Name: ____________________

2. Age: ______year ______month 3. Class: ______________

4. "What do you plan to do after you get out of high school?"

5. "What occupations or vocations are you considering as a life-time career?"
   1. ____________________
   2. ____________________
   3. ____________________

6. "Are you considering attending any particular schools or colleges after you get through high school?" (yes) (no) "Which ones are you considering?"

7. "Within the last four weeks, have you written any place to ask for a pamphlet, college catalog, or a bulletin about any jobs, etc.?" (Emphasize "within the last four weeks." If answer is "yes," fill out FORM A for each item reported.)

8. "Within the last four weeks, have you read or looked at any books, magazines or pamphlets about the occupations you are considering?" (as mentioned in Item 5.) (Fill out FORM A for each one reported.)

9. "Have you read any material during the last four weeks, such as pamphlets, booklets, bulletin board posters, about occupations other than the ones you are considering?" (FORM A)

10. "How long have you attended this school?" ______________
"What school did you attend before coming to this one? __________

11. "Have you read any books, magazines or pamphlets within the last four weeks telling about getting admitted to schools and colleges or about the schools or colleges you are interested in attending?" (FORM A)

12. "Have you obtained (bought, borrowed, checked out of library) any reading material about getting into schools or colleges or describing schools or colleges you are interested in attending that you have not read yet?" (FORM A)

13. "Let's try to think back and try to remember if you have read any other material during the last four weeks, such as booklets, pamphlets and bulletin board posters about getting into schools or colleges or just about schools in general? (other than specific schools or colleges interested in attending.)" (FORM A)

14. "What extra curricular activity have you enjoyed the most in high school?" Answer:

15. "Have you talked with any people within the last four weeks who are working at the types of jobs that you are considering? By that I mean, if you are interested in engineering I would like to know if you have talked to anyone who actually is an engineer." (FORM B. Fill out a FORM B for each person contacted.)

16. "Have you talked with anyone in the last four weeks who has worked in the past at the types of jobs you are considering?" (Persons now retired or former jobs.) (FORM B)

17. "Did you talk with anyone in the last four weeks who knows about jobs and occupations? I mean people such as relatives, including your mother and father, brothers and sisters, neighbors, close friends, teachers and counselors who are familiar with occupations?" (other than mentioned in Items 16 and 17) (FORM B)

18. "How long have you been interested in ____________________ as a possible career?"

"Have you become interested in a particular future job(s) or career(s) recently (within the last four weeks)? If so, what job(s) or career(s)?"

____________________ ____________________

____

19. "What is your overall grade average?"

A A- B+ B B- C+ C C- D+ D D-

20. "What high school subject have you enjoyed the most since the 8th grade?"

21. "Within the last four weeks have you talked to any person who is presently attending one of the schools you are interested in attending?" (FORM B)

22. "Have you talked with anyone who has attended one of the schools you are interested in attending?" (within the last four weeks) (FORM B)

23. "Have you spoken with any people who know about schools and colleges even though they didn't attend one of the schools which interests you?" (persons other than those in Items 21 and 22) (FORM B)

24. "Are you currently taking part in an organized sport?"

25. "Have you visited any of the schools or colleges, within the last four weeks that you are interested in attending?" (yes) (no) (FORM E)

26. "Have you made definite plans to visit any of them in the last four weeks?" (FORM E)

personal decision to visit	x	(circle one)
required visit	x	

27. "Have you seen any TV programs, fair exhibits or shows, or heard any radio programs within the last weeks about the occupations or schools and colleges that interest you?" (FORM A)

watch (listen) program regularly	x
watch (listen) to find out about occupations or schools	x

28. "Since ______________ (date of counseling interview) have you made an on-the-job visit to see what the occupation that you are considering as a possible career is like?" (FORM E)

29. "Have you made any definite plans to visit and observe people working in these occupations in the past four weeks?" (FORM E)

30. "Have you talked to your high school counselor within the last four weeks for the purpose of finding out more about yourself? I mean such things as your grade average, or the results of any special tests that you have taken in school in the past such as interest tests, ability tests or achievement tests that weren't regular class subject tests." (FORM C)

Voluntarily visited counselor x Sent for by counselor x

Referred to counselor by ______________________________

31. "Have you taken any such test within the last four weeks or made definite plans to do so?" (FORM C)

Required to take x Volunteered to take x

32. "Have you had any regular summer or part-time job, that is, for more than two weeks, with or without pay?" (yes) (no)

33. "Have you looked into or do you have definite plans to look into a part-time or summer job to make money for future school or college expenses?" (FORM D)

35. "How about a part-time job that is connected with an occupation that you are considering? Have you inquired or do you have plans to find out?" (within the last four weeks) (FORM D)

36. "What is your father's (guardian's) occupation? What does he do?" (Get a very specific answer; if dead find out what he did.)

"Where does he work?"

37. "Does your mother work outside the home? What does she do?" Answer (Get a definite answer.)

38. "How successful do you see yourself in terms of athletics? (acknowledge the tendency to say average; encourage student to be honest as to how he sees himself.)

High Success	Middle Success	Low Success

39. "How about academically? How successful do you see yourself in terms of academic work?" (i.e. school work, grades) (Again encourage openness in reporting how student really sees self.)

40. "Have you recently had any counseling about your post-high school plans?" (Make sure that student has or has not had counseling)

Yes No (Circle one)

a. If yes, name of counselor ____________________

41. (If yes) "How helpful was this counseling?"

Extremely Helpful	Very Helpful	Somewhat Helpful	Of Little Help	Not Helpful
5	4	3	2	1

Ask student for any additional comments; copy comment verbatim below:

42. "What kind of help from a counselor would you like now as to your future plans?"

43. (If student had counseling) Did you listen to a tape recording? (Make sure a "yes" here corresponds to "yes" in earlier questions about having had counseling.)

a. If yes:

1. Did the counselor on the tape seem interested in what the student was saying and talking about?

Extremely Interested	**Very Interested**	**Somewhat Interested**	**Little Interested**	**Not Interested**
5	**4**	**3**	**2**	**1**

(Summarize any additional comments)

b. What did you think of the student on the tape?

Probably extremely popular Extremely attractive "Tops" "Tough" Extremely smart student	**Probably very popular Above average student Very attractive**
5	**4**

Probably somewhat popular Somewhat attractive Mediocre; Typical	**Not very popular Below average student**	**Not popular, not attractive Not smart; "loser"**
3	**2**	**1**

c. How successful athletically would you say this student on the tape way?

High Success	**Middle Success**	**Low Success**

d. How about academically? How successful was this student on the tape academically?

High Success	Middle Success	Low Success

44. What have you been doing with any information which you've recently got about future careers or education?

45. What do you plan to do as a next step? (i.e. after having got some information.)

FORM A - IMPERSONAL SOURCES

ITEM # ________________

1. Title -
2. Author -
3. (checked out) (obtained for permanent possession)
   (read but not obtained) (requested by mail)
4. Date of Item #3
5. Source - (Be specific enough to enable one to relocate the item.)
6. Topic (what was it about?)
7. What was the most impressive fact that you learned?

FORM B - PERSONAL SOURCES

ITEM # _______________

1. Topic discussed: (schools) (occupation) (other)
2. Name of person -
3. (H) Address of person
4. (H) How can he be reached?
5. Length of time contacted (<15) (15 - 60) (>60)
6. Contact was via (telephone) (in person)
7. Date of contact
8. Name of institution) (occupation) (other) to which person is (directly) (indirectly) connected.
9. Person is (on high school staff) (relative) (other) Specify.
10. Purpose of contact? (specific aim)
11. What do you feel is the most important fact you learned from this person?

FORM C - SELF KNOWLEDGE

ITEM # ____________

1. Topic discussed:
2. Name of person
3. (H) Address of person
4. How can he be reached? (be very specific)
5. Length of time contacted (<15) (15 - 60) (>60)
6. Date of contact
7. Contact was (in person) (via telephone)
8. Person is (on the high school staff) (relative) (other) Specify..
9. What do you recall as the most important thing you learned.

FORM D - WORK EXPERIENCE

ITEM # ____________

1. (Definitely has job) (definite plans to obtain job)
2. (Paid) (volunteer)
3. Nature of task
4. Place of employment
5. Person contacted
6. (H) Address of person contacted
7. (H) How can he be reached?

8. Date of contact
9. How is job associated with occupational interest?

FORM E - VISITATION

ITEM # __________

1. Visit was (definitely made) (is planned)
2. Visit related to (schools) (occupation)
3. If appropriate - occupation represented:
4. Name of person and/or institution visited
5. Position of person contacted
6. (H) Address of person and/or institution visited
7. (H) How can person be reached?
8. Length of time visited (<15) (15-60) (1 hour - 3 hour) (>3 hour)
9. Date of visit
10. What do you recall about your visit?